

101 PROGRAMMING SURPRISES & TRICKS FOR YOUR APPLE II[®]///e[®] COMPUTER

BY DAVID L. HEISERMAN



FIRST EDITION

FIRST PRINTING

Copyright © 1984 by TAB BOOKS Inc.
Printed in the United States of America

Reproduction or publication of the content in any manner, without express permission of the publisher, is prohibited. No liability is assumed with respect to the use of the information herein.

Library of Congress Cataloging in Publication Data

Heiserman, David L., 1940-
101 programming surprises and tricks for your
Apple II/IIe computer.

1. Apple II (Computer)—Programming. 2. Apple IIe
(Computer)—Programming. 3. Basic (Computer program
language) I. Title. II. Title: One hundred one pro-
gramming surprises and tricks for your Apple II/IIe
computer. III. Title: One hundred and one programming
surprises and tricks for your Apple II/IIe computer.
QA76.8.A662H4 1984 001.64'25 83-24206
ISBN 0-8306-1721-3 (pbk.)

Cover illustration by Al Cozzi.

Contents

Preface	viii
Program 1 Watch This!	1
Program 2 Mission Impossible	2
Program 3 Moving Message	4
Program 4 Current Time	5
Program 5 Perpetual Calendar	6
Program 6 Home Recipes	8
Program 7 Alarm Clock	10
Program 8 Topsy Translator	12
Program 9 English-Bostoneese	14
Program 10 English-Brooklyneese	16
Program 11 English-German-English	18
Program 12 English-Japanese-English	20
Program 22 English-Spanish-English	22
Program 14 Pig-Latin Generator	24
Program 15 Singing Computer	26
Program 16 Musical Keyboard	27
Program 17 Cryptogram Generator	28
Program 18 World Bank Update	30
Program 19 Spoonerisms	32
Program 20 Typing Helper	34

**101 PROGRAMMING SURPRISES & TRICKS
FOR YOUR
APPLE II[®] //e[®] COMPUTER**

BY DAVID L. HEISERMAN

TAB **TAB BOOKS Inc.**
BLUE RIDGE SUMMIT, PA. 17214

Program 21	Letter Scrambler	35
Program 22	Letter-Scramble Game	37
Program 23	Word-Scramble Game	39
Program 24	Break Time	42
Program 25	ESP	43
Program 26	Word Unscrambler	45
Program 27	Missing Letters	46
Program 28	Flashing-Letters Game	48
Program 29	Code Skill Builder	50
Program 30	Morse Code Generator	52
Program 31	Word-Find Puzzle Generator	54
Program 32	Hi/Lo Guessing Game	57
Program 33	Fair Hi/Lo	60
Program 34	Combination Lock	63
Program 35	9-Cell Magic Square Generator	64
Program 36	16-Cell Magic Square	66
Program 37	Number-Sequence Test	68
Program 38	Improved Cash Flow	69
Program 39	Count the Stars	71
Program 40	Simple Dice Roll	72
Program 41	Bankroll Dice	73
Program 42	Cards at War	75
Program 43	Flash Cards	77

Program 44	Blackjack	79
Program 45	Fair Blackjack	81
Program 46	Presidents Quiz	83
Program 47	States, Cities, and Capitals	85
Program 48	Draw	88
Program 49	Masterpiece Art	89
Program 50	Weather Predictor	90
Program 51	Crystal Ball	92
Program 52	Private Shrink	94
Program 53	Robot Floor Painter	95
Program 54	Robot Lawnmower	97
Program 55	Wallpaper Samples	99
Program 56	Don't Touch	101
Program 57	Computer Fixer	102
Program 58	What's Wrong #1	104
Program 59	What's Wrong #2	105
Program 60	Surrogate Cusser	106
Program 61	Arrow Shoot I	108
Program 62	Arrow Shoot II	110
Program 63	Arrow Shoot III	112
Program 64	Arrow Shoot IV	114
Program 65	Genetic Experiments	116
Program 66	Gopher Hunt	117

Program 67	Parachute Jumper	119
Program 68	Lifeguard	121
Program 69	Computerized Home Status	123
Program 70	Scissors-Paper-Stone	125
Program 71	Help-Help	127
Program 72	Wumpus	128
Program 73	Super Wumpus	130
Program 74	Cross the River	132
Program 75	Football	134
Program 76	Shell Game	137
Program 77	Fair Shell Game	139
Program 78	Russian Roulette	142
Program 79	Fair Russian Roulette	144
Program 80	Simple Simon Sequence	146
Program 81	Reaction-Time Tester	148
Program 82	Speech Writer	150
Program 83	Dungeon Character Generator #1	153
Program 84	Tic-Tac-Toe	154
Program 85	Mazes	156
Program 86	Robot Maze	158
Program 87	Roach Race	160
Program 88	Roach Race Plus	162
Program 89	Submarine Attack	165

Program 90	Missile Defender	167
Program 91	Hackers' Aid	170
Program 92	Sea Battle	175
Program 93	Miner	178
Program 94	Asteroids	180
Program 95	Wildcatter	182
Program 96	Moon Lander	184
Program 97	Stock Market	186
Program 98	Headline Generator	189
Program 99	King Pong	191
Program 100	Adventure Revisited	194
Program 101	Good-Bye	196

Preface

Sophistication knows no bounds for the enlightened.

—From *Modern Wisdom and Conundrums*

The quotation shown above has no relevance here, but I thought it sounded pretty good. No one reads the preface of a book, anyway—so it really doesn't matter.

Come to think of it, though, this book might at least appear to offer some enlightenment, especially to someone who doesn't know how to work a home computer. It might look terribly sophisticated to someone like that. In fact, you can impress people even more by cutting the cover off a copy of *War and Peace* and gluing it over this one. You'll have room for your lunch in here, too.

No, there isn't much relevance to anything within these pages. And there is no overabundance of reverence for the modern computer world, either.

Let me tell you something: if you are still reading this preface, you belong to a unique group of individuals. For that reason, you deserve to know more about this book. That's what a preface is for.

This book of programs is mainly intended for BASIC programmers who have gotten tired of doing the same old things—and, indeed, such things are getting tiresome these days. I must confess that a couple of these programs are much like the “same old things,” but perhaps better presented, easier to enter into your computer, and more fun to use.

“Fun.” I just said, “fun.” That's what this book is all about. And I don't mean just programs that are fun. I mean the whole idea is fun. In many instances, I don't give you the slightest hint about what the program does—those are the little jokes I pull on you. Then some of the programs give you a chance to pull some fast ones on your friends (or enemies). Tired of the same old computerized high-low guessing games? Well, how about one that lets you sort of . . . well, load the game in your favor?

Want to show friends how you keep track of the stock market or the world monetary system? There are programs for doing that. Or if you are willing to acknowledge the darker side of your personality, how about programs that let you copy those so-called copy-protected disks and peek into high-class computers anywhere in the country? It's all here, in a manner of speaking.

There's 101 programs for your Apple II or IIe home computer. Most of them are rather short so that you will not have to labor at the keyboard very long. Leaf through the pages, find a title that strikes your fancy, and go to work on it. There are enough programs to keep you going that way for quite some time.

People ask, “Did you make up all these programs?” I first respond by saying that you don't have to look very far to find hundreds of examples of unenlightening and unsophisticated programs. But after saying that, I begin feeling bad about knocking the software business, and explain that I had a lot of help from some nice people—namely Robin Yates and Kevin Abnett. Robin formatted the manuscript and played with the programs to her heart's content on our resident Apples. Kevin drafted most of the programs, but he is still grumbling about how I always changed things in them.

We dug up a few ideas, and most of the quotations, from standard library sources and the waste dumpsters in the parking lots of high-tech consulting firms. Then there was this one idea I found on a piece of paper in a water puddle in Indianapolis. I didn't use it in this book, however.

Program 1 WATCH THIS!

"The real danger is not that computers will begin to think like men, but that men will begin to think like computers."

—Sydney J. Harris

```
10 REM ** WATCH THIS **
20 REM
30 TEXT : HOME
40 FOR N = 1 TO 5
50 READ D:C$ = CHR$ (D)
60 H = N + 17
70 GOSUB 210
80 NEXT N
90 FOR N = 1 TO 5: CALL - 198: NEXT N
100 HTAB 18: VTAB 20: PRINT CHR$ (32)
110 HTAB 18: VTAB 19: PRINT "O"
120 FOR H = 18 TO 23
130 HTAB H - 1: VTAB 19: PRINT CHR$ (32)
140 HTAB H: VTAB 19: PRINT "O"
150 FOR T = 0 TO 20: NEXT T
160 NEXT H
170 HTAB 23: VTAB 19: PRINT CHR$ (32)
180 HTAB 23: VTAB 20: PRINT "O"
190 HTAB 11: VTAB 23: PRINT "I AM YOUR COMPUTER";
200 END
210 FOR V = 2 TO 20
220 HTAB H: VTAB V - 1
230 PRINT CHR$ (32)
240 HTAB H: VTAB V
250 PRINT C$
260 FOR T = 0 TO 20: NEXT T
270 NEXT V
280 RETURN
290 DATA 79,72,69,76,76
```

Program 2 MISSION IMPOSSIBLE

"Who knows what evil lurks in the hearts of men?"

—The Shadow

```

10 REM ** MISSION IMPOSSIBLE **
20 REM
30 M$ = ""
40 FOR K = 1 TO 11:M$ = M$ + CHR$ (32): NEXT K
50 M$ = M$ + "MISSION IMPOSSIBLE" + CHR$ (13)
60 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
70 TEXT : HOME : PRINT M$
80 PRINT "PLEASE ENTER YOUR LAST NAME:"
90 PRINT
100 INPUT " ";N$
110 IF LEN (N$) < 1 THEN 100
120 VTAB 10
130 FOR T = 1 TO 4
140 READ T$(T)
150 PRINT TAB( 5)T" -- "T$(T)
160 NEXT T
170 PRINT : PRINT "SELECT A TITLE (1-4):";
180 GET T$
190 IF T$ < "1" OR T$ > "4" THEN 180
200 T = VAL (T$)
210 T$ = T$(T)
220 IF T = 4 THEN T$ = "(WHATEVER)"
230 HOME : PRINT M$
240 PRINT "GOOD MORNING, "T$ SPC( 1)N$
250 PRINT : PRINT TAB( 5)"THIS MAN, DAVID L. HEISERMAN, IS"
260 PRINT "A DANGEROUS CROOK. STRIKE ANY KEY TO"
270 PRINT "SEE A PICTURE OF HIM ..."
280 PRINT : GET K$
290 HOME : POKE 36,5
300 PRINT : PRINT
310 PRINT "          (( ))"
320 PRINT "        ((( )))"
330 PRINT "      ((( ( )))"
340 PRINT "    ((( ( ) )))"
350 PRINT "  ((          ))"
360 PRINT "  ((( <*> <*> )))"
370 PRINT "  ((      JL      ))"
380 PRINT "  ((      AA      ))"
390 PRINT "  ((      ----      ))"
400 PRINT "  (X      XXXX      X)"
410 PRINT "  XX XXXXX XXXXX XX"
420 PRINT "  XXXX      XXXX"
430 PRINT "  XX  (|||||)  XX"
440 PRINT "    X  (_____)  X"

```

```

450 PRINT "      XX          XX "
460 PRINT "      XXXXXXXXXXXXX"
470 PRINT "      XXXXXXXXXXXXX"
480 PRINT "      XXXXXX"
490 VTAB 22: PRINT "STRIKE ANY KEY TO CONTINUE ...";
500 GET K$
510 HOME : PRINT M$
520 PRINT "HE IS GETTING WEALTHY BY WRITING FAKE"
530 PRINT "BOOKS ON COMPUTER PROGRAMMING (SUCH"
540 PRINT "AS THIS ONE)."

```

Program 3 MOVING MESSAGE

"The fact that silence is golden may explain why there is so little of it."

—Anonymous

```
10 REM    ** MOVING MESSAGE GENERATOR **
20 REM
30 REM
40 FOR N = 0 TO 39:MH$ = MH$ + "**": NEXT N
50 TEXT : HOME
60 PRINT "MOVING-MESSAGE GENERATOR"
70 PRINT MH$: PRINT
80 PRINT "ENTER ANY MESSAGE UP TO 170 CHARACTERS"
90 PRINT "LONG (ABOUT FOUR FULL LINES OR LESS)."
```

100 PRINT : PRINT "ENCLOSE THE MESSAGE IN QUOTATION MARKS"

110 PRINT "IF YOU PLAN TO USE ANY COMMAS OR APOS-"

120 PRINT "TROPHES."

130 PRINT : INPUT M\$

140 IF LEN (M\$) < = 170 THEN 160

150 PRINT : PRINT "MESSAGE IS TOO LONG. TRY AGAIN ...": GOTO 130

160 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN THE MOVING"

170 PRINT "MESSAGE; THEN AGAIN STRIKE ANY KEY TO"

180 PRINT "END THE PROGRAM.";

190 GET K\$

200 HOME

210 N\$ = ""

220 FOR K = 1 TO 40:N\$ = " " + N\$: NEXT K

230 M\$ = N\$ + M\$

240 HTAB 1: VTAB 10: PRINT MH\$

250 HTAB 1: VTAB 14: PRINT MH\$

260 FOR N = 2 TO LEN (M\$)

270 P\$ = MID\$ (M\$,N) + LEFT\$ (M\$,N - 1)

280 VTAB 12: HTAB 1

290 PRINT LEFT\$ (P\$,40)

300 FOR T = 1 TO 100: NEXT T

310 K = PEEK (49152): POKE 49168,0

320 IF K > 127 THEN HOME : END

330 NEXT N

340 GOTO 260

Program 4 CURRENT TIME

"No hand can make the clock strike for me the hours that are passed."

—Byron

```
10 REM ** CURRENT TIME **
20 REM
30 FOR N = 1 TO 40:X$ = X$ + "=": NEXT N
40 TEXT : HOME
50 PRINT "SET THE CURRENT TIME:"
60 PRINT X$: PRINT
70 PRINT "ENTER THE CURRENT HOUR (1-12) ";
80 INPUT " ";CH:CH = INT (CH)
90 IF CH > 0 AND CH < = 12 THEN 110
100 PRINT "TRY AGAIN ...";: GOTO 80
110 PRINT : PRINT "ENTER THE CURRENT MINUTE (0-59) ";
120 INPUT " ";CM:CM = INT (CM)
130 IF CM > = 0 AND CM < = 59 THEN 150
140 PRINT "TRY AGAIN ...";: GOTO 120
150 HOME : PRINT "CURRENT TIME (MORE OR LESS)"
160 PRINT X$
170 HTAB 1: VTAB 21
180 PRINT "STRIKE ANY KEY TO DO SOMETHING ELSE ...";
190 FOR HR = CH TO 12
200 FOR MN = CM TO 59
210 FOR SC = 0 TO 59
220 HR$ = "0" + STR$ (HR)
230 IF LEN (HR$) > 2 THEN HR$ = RIGHT$ (HR$,2)
240 MN$ = "0" + STR$ (MN)
250 IF LEN (MN$) > 2 THEN MN$ = RIGHT$ (MN$,2)
260 SC$ = "0" + STR$ (SC)
270 IF LEN (SC$) > 2 THEN SC$ = RIGHT$ (SC$,2)
280 T$ = HR$ + ":" + MN$ + ":" + SC$
290 HTAB 1: VTAB 4
300 INVERSE : PRINT T$: NORMAL
310 FOR T = 0 TO 37
320 K = PEEK ( - 16384): POKE - 16368,0
330 IF K > 127 THEN VTAB 22: END
340 NEXT T
350 NEXT SC,MN
360 CM = 0: NEXT HR
370 CH = 1: GOTO 190
```

Program 5 PERPETUAL CALENDAR

"Like sands through the hourglass, so are the days of our lives."

—NBC's *Days of Our Lives*

```
10 REM ** PERPETUAL CALENDAR **
20 REM
30 FOR K = 1 TO 11:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "PERPETUAL CALENDAR" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 FOR K = 1 TO 8: READ D$(K): NEXT K
70 TEXT : HOME : PRINT M$
80 PRINT "ENTER A YEAR (1500-2000) ";
90 INPUT " ";YR
100 YR = INT (YR)
110 IF YR < = 2000 AND YR > = 1500 THEN 130
120 PRINT "BETWEEN 1500 AND 2000 ";: GOTO 90
130 PRINT : PRINT "ENTER A MONTH (1-12) ";
140 INPUT " ";MT
150 IF MT > = 1 AND MT < = 12 THEN 170
160 PRINT "BETWEEN 1 AND 12 ";: GOTO 140
170 PRINT : PRINT "ENTER THE DAY OF THE MONTH (1-31) ";
180 INPUT DT
190 DT = INT (DT)
200 IF DT > = 1 AND DT < = 31 THEN 220
210 PRINT "BETWEEN 1 AND 31 ";: GOTO 180
220 YD = YR - 1804:DC = 0
230 FOR K = 1 TO YD
240 DC = DC + 365
250 IF K / 4 = INT (K / 4) THEN DC = DC + 1
260 NEXT K
270 IF YR / 4 = INT (YR / 4) THEN DC = DC + 1
280 DC = DC + DT
290 MO = MT
300 IF MO = 2 THEN DC = DC + 31
310 IF MO = 3 THEN DC = DC + 59
320 IF MO = 4 THEN DC = DC + 90
330 IF MO = 5 THEN DC = DC + 120
340 IF MO = 6 THEN DC = DC + 151
350 IF MO = 7 THEN DC = DC + 181
360 IF MO = 8 THEN DC = DC + 212
370 IF MO = 9 THEN DC = DC + 243
380 IF MO = 10 THEN DC = DC + 273
390 IF MO = 11 THEN DC = DC + 304
400 IF MO = 12 THEN DC = DC + 334
410 XG = 7 * INT (DC / 7)
420 DN = DC - XG
430 IF DN = 0 THEN DN = 7
440 HOME : PRINT M$
450 PRINT MO;"-DT"-YR
460 PRINT : PRINT " FALLS ON A D$(DN)
470 VTAB 21: PRINT "DO YOU WANT ANOTHER DATE (Y/N)";
480 GET K$: IF K$ = "Y" THEN 70
```

```
490 IF K$ < > "N" THEN 480
500 HOME : END
510 DATA SUNDAY,MONDAY,TUESDAY
520 DATA WEDNESDAY,THURSDAY,FRIDAY
530 DATA SATURDAY,SUNDAY
```


Program 6 HOME RECIPES

"Bon appetit!"

—Julia Child

Are you getting tired of meals that are prepared from the same old recipes? Here is your chance to load your recipe file with an endless variety of new, creative, and challenging gastronomy.

```
10 REM ** HOME RECIPES **
20 REM
30 DIM A$(50),E$(50),I$(50),Q$(50)
40 FOR N = 1 TO 40:Y$ = Y$ + " ": NEXT N
50 M$ = "HOME RECIPES" + CHR$(13) + Y$
60 TEXT : HOME : PRINT M$
70 PRINT "HI. WHAT IS YOUR FIRST NAME?"
80 INPUT N$
90 IF LEN(N$) > 1 THEN 120
100 PRINT "YOU'RE KIDDING. TRY AGAIN"
110 PRINT : GOTO 80
120 T$ = "ACTION": GOSUB 470
130 FOR A = 1 TO N:A$(A) = E$(A): NEXT A
140 NA = N - 1
150 T$ = "QUANTITY": GOSUB 470
160 FOR Q = 1 TO N:Q$(Q) = E$(Q): NEXT Q
170 NQ = N - 1
180 T$ = "INGREDIENT": GOSUB 470
190 FOR I = 1 TO N:I$(I) = E$(I): NEXT I
200 NI = N - 1
210 NR = 1:N$ = N$ + "'S RECIPE NO. "
220 HOME : PRINT N$;NR; CHR$(13);Y$
230 FOR NL = 1 TO INT(10 * RND(1)) + 1
240 PRINT A$(INT(NA * RND(1)) + 1);
250 PRINT SPC(1)Q$(INT(NQ * RND(1)) + 1);
260 PRINT SPC(1)I$(INT(NI * RND(1)) + 1)
270 NEXT NL
280 VTAB 20: PRINT "STRIKE THE SPACE BAR TO SEE A DIFFERENT"
290 PRINT "RECIPE (OR THE X KEY TO DO SOMETHING"
300 PRINT "ELSE) ...";
310 GET K$
320 IF K$ = CHR$(32) THEN NR = NR + 1: GOTO 220
330 IF K$ = "X" THEN HOME : END
340 GOTO 310
350 N = 1:CV = PEEK(37)
360 PRINT T$ " #N": " ;: CALL - 868
370 INPUT " ";K$
380 IF LEN(K$) < 1 THEN 360
390 IF K$ < > "###" THEN 420
400 IF N > 1 THEN 460
410 PRINT "ENTER AT LEAST ONE "T$: GOTO 360
420 E$(N) = K$:N = N + 1
430 IF N > 50 THEN 460
```

```

440 IF PEEK (37) > 22 THEN POKE 37,CV - 1
450 GOTO 360
460 RETURN
470 HOME : PRINT M$
480 PRINT T$" ENTRY PHASE.": PRINT
490 PRINT "ENTER AT LEAST ONE, AND AS MANY AS 50"
500 PRINT "EXPRESSIONS SUCH AS:": PRINT
510 FOR N = 1 TO 5
520 READ D$: PRINT TAB( 5)D$
530 NEXT N
540 PRINT : PRINT "ENTER ### TO END YOUR LIST."
550 PRINT : GOSUB 350: RETURN
560 DATA STIR IN,BLEND,MASH,BAKE,ADD
570 DATA 1 CUP,2 TABLESPOONS,1 PINCH,4 QUARTS,1 PACKAGE
580 DATA FROZEN PEAS,HORSERADISH,SUGAR,SALT,ORANGE JUICE

```

Program 7 ALARM CLOCK

"We do more before 9 a.m. than most people do all day."

—U.S. Army recruiting slogan

```
10 REM    ** ALARM CLOCK **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + " ": NEXT K
40 M$ = M$ + "ALARM CLOCK" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 TEXT : HOME : PRINT M$
70 T$ = "CURRENT": GOSUB 460
80 HR = H:MN = M
90 T$ = "ALARM": GOSUB 460
100 AH = H:AN = M
110 SC = 0
120 HOME : PRINT M$
130 VTAB 10: POKE 36,15
140 SG = MN: GOSUB 250
150 MN$ = W$:SG = HR: GOSUB 250
160 HR$ = W$:SG = SC: GOSUB 250
170 C$ = W$
180 PRINT HR$:"MN$":"C$
190 GOSUB 330
200 FOR T = 0 TO 440: NEXT T
210 SC = SC + 1: IF SC < 60 THEN 130
220 SC = 0:MN = MN + 1: IF MN < 60 THEN 130
230 MN = 0:HR = HR + 1: IF HR < 24 THEN 130
240 HR = 1: GOTO 130
250 SX = SG:LX = SX
260 LX = SX
270 LX = LX - 10: IF LX > 9 THEN 270
280 IF LX < 0 THEN LX = LX + 10
290 HX = (SX - LX) / 10
300 B$ = CHR$(HX + 48):L$ = CHR$(LX + 48)
310 W$ = B$ + L$
320 RETURN
330 IF AN < > MN THEN RETURN
340 IF AH < > HR THEN RETURN
350 A$ = ""
360 HTAB 12: VTAB 15
370 PRINT A$,: FLASH : PRINT "***** ALARM *****"
380 NORMAL
390 VTAB 21
400 PRINT "STRIKE ANY KEY TO SILENCE"
410 PRINT "THE ALARM ...";
420 CALL - 198: FOR T = 0 TO 10: NEXT T
430 S = PEEK ( - 16384): POKE - 16368,0
440 IF S > 127 THEN HOME : END
```

```
450 GOTO 420
460 PRINT : PRINT "ENTER "T$" HOUR (0 - 23) ";
470 INPUT "";H
480 IF H > = 0 AND H < 24 THEN 510
490 PRINT : PRINT "USE 0 THRU 23 HOURS, PLEASE."
500 PRINT "TRY AGAIN ...";: GOTO 470
510 PRINT : PRINT "ENTER "T$" MINUTE (0 - 59) ";
520 INPUT "";M
530 IF M > = 0 AND M < 60 THEN RETURN
540 PRINT : PRINT "USE 0 THRU 59 MINUTES, PLEASE."
550 PRINT "TRY AGAIN ...";: GOTO 520
```

Program 8 TIPSYP TRANSLATOR

"Urp . . ."

—Overheard in a bar in Cleveland

```
10 REM ** TIPSYP TRANSLATOR **
20 REM
30 FOR K = 1 TO 10:MH$ = MH$ + CHR$ (32): NEXT K
40 MH$ = MH$ + "TIPSYP TRANSLATOR" + CHR$ (13)
50 FOR K = 1 TO 40:MH$ = MH$ + "=": NEXT K
60 HOME : PRINT MH$
70 PRINT "THIS IS A VERY SOPHISTICATED PROGRAM"
80 PRINT "THAT TRANSLATES THE WORDS OF A SOBER"
90 PRINT "INDIVIDUAL INTO THE MUTTERINGS OF ONE"
100 PRINT "WHO HAS TIPPED A FEW TOO MANY GLASSES."
110 VTAB (22): PRINT "STRIKE ANY KEY TO BEGIN ...";
120 GET K$
130 HOME : PRINT MH$
140 PRINT "ENTER AN ENGLISH PHRASE, SENTENCE,"
150 PRINT "OR PARAGRAPH OF 150 CHARACTERS OR"
160 PRINT "LESS. ENCLOSE THE ENTIRE ENTRY IN"
170 PRINT "QUOTES IF YOU PLAN TO USE ANY COMMAS"
180 PRINT "OR APOSTROPHES."
190 PRINT : PRINT
200 INPUT M1$
210 IF LEN (M1$) < 1 THEN 200
220 IF LEN (M1$) < 151 THEN 260
230 PRINT : PRINT "SHORRY ... TOO LONG."
240 PRINT "TRY AGAIN IN A MOMENT ..."
250 FOR T = 0 TO 1000: NEXT T: GOTO 130
260 HOME : PRINT MH$
270 PRINT
280 M$ = M1$: GOSUB 520:M1$ = M$
290 PRINT
300 M2$ = ""
310 FOR N = 1 TO LEN (M1$)
320 M$ = MID$ (M1$,N,1)
330 IF M$ = "F" THEN M$ = "PH": GOTO 380
340 IF M$ = "S" THEN M$ = "SH": GOTO 380
350 M$ = MID$ (M1$,N,2)
360 IF M$ = "GH" THEN M2$ = M2$ + "F":N = N + 1: GOTO 390
370 M$ = MID$ (M1$,N,1)
380 M2$ = M2$ + M$
390 NEXT N
400 PRINT
410 FOR N = 1 TO 40: PRINT "=": NEXT N
420 PRINT "TIPSYP TRANSLATION:": PRINT
430 M$ = M2$: GOSUB 520
440 HTAB 1: VTAB 20
450 PRINT "STRIKE RETURN TO DO ANOTHER TRANSLATION"
460 HTAB 6
470 PRINT "(OR STRIKE THE X KEY TO END)"
480 GET K$
```

```
490 IF ASC (K$) = 13 THEN 130
500 IF K$ = "X" THEN HOME : END
510 GOTO 480
520 FOR N = 1 TO LEN (M$)
530 C = ASC ( MID$ (M$,N,1))
540 PRINT CHR$ (C);
550 IF POS (X) > 35 AND C = 32 THEN PRINT
560 NEXT N
570 RETURN
```

Program 9 ENGLISH-BOSTONEESE

"In Boston they ask, How much does he know? In New York, How much is he worth? In Philadelphia, Who were his parents?"

—Mark Twain

```
10 REM ** ENGLISH TO BOSTONEESE TRANSLATOR **
20 REM
30 MH$ = "ENGLISH TO BOSTONEESE TRANSLATOR"
40 FOR N = 0 TO 39: X$ = X$ + "=": NEXT N
50 MH$ = MH$ + CHR$(13) + X$
60 TEXT : HOME : PRINT MH$
70 PRINT "THIS IS A LANGUAGE TRANSLATION PROGRAM "
80 PRINT "THAT TRANSLATES ORDINARY ENGLISH INTO"
90 PRINT "AN EQUIVALENT FORM THAT IS GENERALLY"
100 PRINT "USED BY PEOPLE IN THE BOSTON AREA."
110 PRINT : PRINT "YOU HAVE, IN ESSENCE, A FINE OPPOR—"
120 PRINT "TUNITY TO COMPARE THIS UNIQUE DIALECT"
130 PRINT "WITH YOUR OWN."
140 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN ...";
150 GET K$
160 HOME : PRINT MH$
170 PRINT "ENTER AN ENGLISH PHRASE, SENTENCE"
180 PRINT "OR PARAGRAPH OF 120 CHARACTERS OR"
190 PRINT "LESS (ABOUT THREE FULL LINES). EN—"
200 PRINT "CLOSE THE ENTIRE ENTRY IN QUOTES"
210 PRINT "IF YOU PLAN TO USE ANY COMMAS OR"
220 PRINT "APOSTROPHES."
230 PRINT
240 INPUT M1$
250 IF LEN (M1$) < 1 THEN 160
260 IF LEN (M1$) < 120 THEN 290
270 PRINT "SORRY, TOO MANY CHARACTERS."
280 PRINT "TRY AGAIN ...": PRINT : GOTO 240
290 HOME : PRINT MH$
300 PRINT "ORIGINAL VERSION:": PRINT
310 M$ = M1$: GOSUB 550:M1$ = M$
320 HTAB 1: VTAB 20: PRINT "PLEASE WAIT A MOMENT ...";
330 M2$ = ""
340 FOR N = 1 TO LEN (M1$)
350 IF MID$(M1$,N,2) = "AR" THEN M$ = "AH":N = N + 1: GOTO 390
360 IF MID$(M1$,N,2) = "ER" THEN M$ = "A": GOTO 390
370 IF MID$(M1$,N,1) = "O" THEN M$ = "AH": GOTO 390
380 M$ = MID$(M1$,N,1)
390 M2$ = M2$ + M$
400 NEXT N
410 HTAB 1: VTAB 20: PRINT "STRIKE ANY KEY TO SEE THE"
420 PRINT "BOSTONEESE VERSION ...";
430 GET K$
440 HOME : PRINT MH$
450 PRINT "BOSTONEESE VERSION:": PRINT
460 M$ = M2$: GOSUB 550
470 HTAB 1: VTAB 20
```

```
480 PRINT "STRIKE THE RETURN KEY TO DO ANOTHER"
490 PRINT "TRANSLATION (OR STRIKE THE X KEY "
500 PRINT "TO END THE PROGRAM) ...";
510 GET K$
520 IF ASC (K$) = 13 THEN 160
530 IF K$ = "X" THEN HOME : END
540 GOTO 510
550 FOR N = 1 TO LEN (M$)
560 C = ASC ( MID$ (M$,N,1))
570 PRINT CHR$ (C);
580 IF POS (X) > 35 AND C = 32 THEN PRINT
590 NEXT N
600 RETURN
```


Program 10 ENGLISH-BROOKLYNEESE

"Wanna buy a bridge?"

—Anonymous

Notice: Similarities between this dialect and that of certain neighborhoods in Philadelphia is purely coincidental. However, the author expects to receive windfall royalties from anyone using this program to generate dialogue for movies titled *ROCKY IV* through *ROCKY XXIV*.

```
10 REM ** ENGLISH-TO-BROOKLYNEESE TRANSLATOR **
20 REM
30 MH$ = " ENGLISH TO BROOKLYNEESE TRANSLATOR"
40 FOR N = 0 TO 39:X$ = X$ + "=": NEXT N
50 MH$ = MH$ + CHR$(13) + X$
60 TEXT : HOME : PRINT MH$
70 PRINT "THIS IS A LANGUAGE-TRANSLATION PROGRAM"
80 PRINT "THAT TRANSFORMS ORDINARY ENGLISH INTO"
90 PRINT "AN EQUIVALENT FORM THAT IS GENERALLY"
100 PRINT "USED BY PEOPLE FROM THE BROOKLYN, NEW"
110 PRINT "YORK, AREA."
120 PRINT : PRINT "YOU HAVE, IN ESSENCE, A FINE OPPOR-"
130 PRINT "TUNITY TO COMPARE THIS UNIQUE DIALECT"
140 PRINT "WITH YOUR OWN."
150 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 HOME : PRINT MH$
180 PRINT "ENTER AN ENGLISH PHRASE, SENTENCE"
190 PRINT "OR PARAGRAPH OF 120 CHARACTERS OR"
200 PRINT "LESS (ABOUT THREE FULL LINES). EN-"
210 PRINT "CLOSE THE ENTIRE ENTRY IN QUOTES"
220 PRINT "IF YOU PLAN TO USE ANY COMMAS OR"
230 PRINT "APOSTROPHES."
240 PRINT
250 INPUT M1$
260 IF LEN (M1$) < 1 THEN 170
270 IF LEN (M1$) < 120 THEN 300
280 PRINT "SORRY, TOO MANY CHARACTERS."
290 PRINT "TRY AGAIN ...": PRINT : GOTO 250
300 HOME : PRINT MH$
310 PRINT "ORIGINAL VERSION:": PRINT
320 M$ = M1$: GOSUB 540:M1$ = M$
330 HTAB 1: VTAB 20: PRINT "PLEASE WAIT A MOMENT ...";
340 M2$ = ""
350 FOR N = 1 TO LEN (M1$)
360 IF MID$(M1$,N,2) = "TH" THEN M$ = "D":N = N + 1: GOTO 380
370 M$ = MID$(M1$,N,1)
380 M2$ = M2$ + M$
390 NEXT N
400 HTAB 1: VTAB 20: PRINT "STRIKE ANY KEY TO SEE THE"
410 PRINT "BROOKLYNEESE VERSION ...";
420 GET K$
```

```
430 HOME : PRINT MH$
440 PRINT "BROOKLYNEESE VERSION:": PRINT
450 M$ = M2$: GOSUB 540
460 HTAB 1: VTAB 20
470 PRINT "STRIKE THE RETURN KEY TO DO ANOTHER"
480 PRINT "TRANSLATION (OR STRIKE THE X KEY"
490 PRINT "TO END THE PROGRAM) ...";
500 GET K$
510 IF ASC (K$) = 13 THEN 170
520 IF K$ = "X" THEN HOME : END
530 GOTO 500
540 FOR N = 1 TO LEN (M$)
550 C = ASC ( MID$ (M$,N,1))
560 PRINT CHR$ (C);
570 IF POS (X) > 35 AND C = 32 THEN PRINT
580 NEXT N
590 RETURN
```

Program 11 ENGLISH-GERMAN-ENGLISH

"Was duckt un zuckt ihr?"

—Overheard in drugstore in Stuttgart

```
10 REM    ** ENGLISH-GERMAN-ENGLISH TRANSLATOR **
20 REM
30 MH$ = "ENGLISH-GERMAN-ENGLISH TRANSLATOR"
40 FOR N = 0 TO 39: X$ = X$ + "=": NEXT N
50 MH$ = MH$ + CHR$(13) + X$
60 TEXT : HOME : PRINT MH$
70 PRINT : PRINT "THIS IS AN INCREDIBLY SOPHISTICATED"
80 PRINT "LANGUAGE TRANSLATION PROGRAM. IT NOT"
90 PRINT "ONLY TRANSLATES FROM ENGLISH TO GERMAN,"
100 PRINT "BUT TRANSLATES GERMAN BACK TO ENGLISH"
110 PRINT "FOR YOU."
120 PRINT : PRINT "YOU HAVE, IN ESSENCE, A FINE OPPOR-"
130 PRINT "TUNITY TO SEE HOW GERMAN-SPEAKING"
140 PRINT "PEOPLE PERCEIVE YOUR WORDS."
150 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 HOME : PRINT MH$
180 PRINT "ENTER AN ENGLISH PHRASE, SENTENCE"
190 PRINT "OR PARAGRAPH OF 120 CHARACTERS OR"
200 PRINT "LESS (ABOUT THREE FULL LINES). EN-"
210 PRINT "CLOSE THE ENTIRE ENTRY IN QUOTES"
220 PRINT "IF YOU PLAN TO USE ANY COMMAS OR"
230 PRINT "APOSTROPHES."
240 PRINT
250 INPUT M1$
260 IF LEN (M1$) < 1 THEN 170
270 IF LEN (M1$) < 120 THEN 300
280 PRINT "SORRY, TOO MANY CHARACTERS."
290 PRINT "TRY AGAIN ...": PRINT : GOTO 250
300 HOME : PRINT MH$
310 PRINT : PRINT "ORIGINAL ENGLISH VERSION:"
320 PRINT : PRINT
330 M$ = M1$: GOSUB 660: M1$ = M$
340 HTAB 1: VTAB 20: PRINT "PLEASE WAIT A MOMENT ...";
350 M2$ = ""
360 FOR N = 1 TO LEN (M1$)
370 IF N > 1 THEN MB$ = MID$ (M1$, N - 1, 1)
380 IF NOT (N = 1 OR MB$ = CHR$(32)) THEN 430
390 IF MID$ (M1$, N, 4) = "THE" + CHR$(32) THEN 720
400 IF MID$ (M1$, N, 4) = "AND" + CHR$(32) THEN 730
410 IF MID$ (M1$, N, 3) = "IS" + CHR$(32) THEN M$ = "IST": GOTO 500
420 IF MID$ (M1$, N, 2) = "QU" THEN 740
430 M$ = MID$ (M1$, N, 1)
440 IF N > = LEN (M1$) - 1 THEN 500
450 MA$ = MID$ (M1$, N, 1)
460 IF ASC (MA$) = 32 THEN 490
470 IF M$ = "V" THEN M$ = "W": GOTO 500
480 IF M$ = "W" THEN M$ = "V"
```

```

490 IF M$ = "D" THEN M$ = "T"
500 M2$ = M2$ + M$
510 NEXT N
520 HTAB 1: VTAB 20: PRINT "STRIKE ANY KEY TO SEE THE"
530 PRINT "GERMAN-ENGLISH VERSION ...";
540 GET K$
550 HOME : PRINT MH$
560 PRINT : PRINT "GERMAN-ENGLISH TRANSLATION:": PRINT
570 M$ = M2$: GOSUB 660
580 HTAB 1: VTAB 20
590 PRINT "STRIKE THE RETURN KEY TO DO ANOTHER"
600 PRINT "TRANSLATION (OR STRIKE THE X KEY"
610 PRINT "TO END THE PROGRAM) ...";
620 GET K$
630 IF ASC (K$) = 13 THEN 170
640 IF K$ = "X" THEN HOME : END
650 GOTO 620
660 FOR N = 1 TO LEN (M$)
670 C = ASC ( MID$ (M$,N,1))
680 PRINT CHR$ (C);
690 IF POS (X) > 35 AND C = 32 THEN PRINT
700 NEXT N
710 RETURN
720 M$ = "DER ":N = N + 3: GOTO 500
730 M$ = "UND ":N = N + 3: GOTO 500
740 M$ = "KV":N = N + 1: GOTO 500

```

Program 12 ENGLISH-JAPANESE-ENGLISH

"Ha-sha she yendo?"

—Overheard on a school bus in Albuquerque

```
10 REM    ** ENGLISH-JAPANESE-ENGLISH TRANSLATION PROGRAM **
20 REM
30 MH$ = "ENGLISH-JAPANESE-ENGLISH TRANSLATOR"
40 FOR N = 0 TO 39:X$ = X$ + "=": NEXT N
50 MH$ = MH$ + CHR$(13) + X$
60 TEXT : HOME : PRINT MH$
70 PRINT "THIS IS AN INCREDIBLY SOPHISTICATED"
80 PRINT "LANGUAGE-TRANSLATION PROGRAM. IT NOT"
90 PRINT "ONLY TRANSLATES FROM ENGLISH TO JAPAN-"
100 PRINT "ESE, BUT TRANSLATES THE JAPANESE BACK"
110 PRINT "INTO ENGLISH FOR YOU."
120 PRINT : PRINT "YOU HAVE, IN ESSENCE, A FINE OPPOR-"
130 PRINT "TUNITY TO SEE HOW JAPANESE-SPEAKING"
140 PRINT "PEOPLE PERCEIVE YOUR WORDS."
150 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 HOME : PRINT MH$
180 PRINT "ENTER AN ENGLISH PHRASE, SENTENCE"
190 PRINT "OR PARAGRAPH OF 120 CHARACTERS OR"
200 PRINT "LESS (ABOUT THREE FULL LINES). EN-"
210 PRINT "CLOSE THE ENTIRE ENTRY IN QUOTES"
220 PRINT "IF YOU PLAN TO USE ANY COMMAS OR"
230 PRINT "APOSTROPHES."
240 PRINT
250 INPUT M1$
260 IF LEN (M1$) < 1 THEN 170
270 IF LEN (M1$) < 120 THEN 300
280 PRINT "SORRY, TOO MANY CHARACTERS."
290 PRINT "TRY AGAIN ...": PRINT : GOTO 250
300 HOME : PRINT MH$
310 PRINT "ORIGINAL ENGLISH VERSION:": PRINT
320 M$ = M1$: GOSUB 560:M1$ = M$
330 HTAB 1: VTAB 20: PRINT "PLEASE WAIT A MOMENT ...";
340 M2$ = ""
350 FOR N = 1 TO LEN (M1$)
360 M$ = MID$(M1$,N,1)
370 IF M$ = "L" THEN M2$ = M2$ + "R": GOTO 400
380 IF M$ = "R" THEN M2$ = M2$ + "L": GOTO 400
390 M2$ = M2$ + M$
400 NEXT N
410 HTAB 1: VTAB 20: PRINT "STRIKE ANY KEY TO SEE THE"
420 PRINT "JAPANESE-ENGLISH VERSION ...";
430 GET K$
440 HOME : PRINT MH$
450 PRINT "JAPANESE-ENGLISH TRANSLATION:": PRINT
460 IF INT (3 * RND (1)) = 0 THEN M2$ = "AHH, SO! " + M2$
470 M$ = M2$: GOSUB 560
480 HTAB 1: VTAB 20
```

```
490 PRINT "STRIKE THE RETURN KEY TO DO ANOTHER"
500 PRINT "TRANSLATION (OR STRIKE THE X KEY"
510 PRINT "TO END THE PROGRAM) ...";
520 GET K$
530 IF ASC (K$) = 13 THEN 170
540 IF K$ = "X" THEN HOME : END
550 GOTO 520
560 FOR N = 1 TO LEN (M$)
570 C = ASC ( MID$ (M$,N,1))
580 PRINT CHR$ (C);
590 IF POS (X) > 35 AND C = 32 THEN PRINT
600 NEXT N
610 RETURN
```

Program 13 ENGLISH-SPANISH-ENGLISH

"Tu llevas espinica entre los dientes!"

—Overheard in a restaurant in Boca Raton

```
10 REM    ** ENGLISH-SPANISH-ENGLISH TRANSLATION PROGRAM **
20 REM
30 MH$ = "ENGLISH-SPANISH-ENGLISH TRANSLATOR"
40 FOR N = 0 TO 39: X$ = X$ + "=": NEXT N
50 MH$ = MH$ + CHR$ (13) + X$
60 TEXT : HOME : PRINT MH$
70 PRINT "THIS IS AN INCREDIBLY SOPHISTICATED"
80 PRINT "LANGUAGE-TRANSLATION PROGRAM. IT NOT"
90 PRINT "ONLY TRANSLATES FROM ENGLISH TO SPAN-"
100 PRINT "ISH, BUT TRANSLATES THE SPANISH BACK"
110 PRINT "INTO ENGLISH FOR YOU."
120 PRINT : PRINT "YOU HAVE, IN ESSENCE, A FINE OPPOR-"
130 PRINT "TUNITY TO SEE HOW SPANISH-SPEAKING"
140 PRINT "PEOPLE PERCEIVE YOUR WORDS."
150 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 HOME : PRINT MH$
180 PRINT "ENTER AN ENGLISH PHRASE, SENTENCE"
190 PRINT "OR PARAGRAPH OF 120 CHARACTERS OR"
200 PRINT "LESS (ABOUT THREE FULL LINES). EN-"
210 PRINT "CLOSE THE ENTIRE ENTRY IN QUOTES"
220 PRINT "IF YOU PLAN TO USE ANY COMMAS OR"
230 PRINT "APOSTROPHES."
240 PRINT
250 INPUT M1$
260 IF LEN (M1$) < 1 THEN 170
270 IF LEN (M1$) < = 120 THEN 300
280 PRINT "SORRY, TOO MANY CHARACTERS."
290 PRINT "TRY AGAIN ...": PRINT : GOTO 250
300 HOME : PRINT MH$
310 PRINT "ORIGINAL ENGLISH VERSION:": PRINT
320 M$ = M1$: GOSUB 570: M1$ = M$
330 HTAB 1: VTAB 20: PRINT "PLEASE WAIT A MOMENT ...";
340 M2$ = "": MB$ = CHR$ (32)
350 FOR N = 1 TO LEN (M1$)
360 M$ = MID$ (M1$,N,1)
370 IF N > 1 THEN MB$ = MID$ (M1$,N - 1,1)
380 IF NOT (N = 1 OR ASC (MB$) = 32) THEN 410
390 IF M$ = "S" THEN M2$ = M2$ + "E" + M$: GOTO 420
400 IF M$ = "I" THEN M2$ = M2$ + "EE": GOTO 420
410 M2$ = M2$ + M$
420 NEXT N
430 HTAB 1: VTAB 20: PRINT "STRIKE ANY KEY TO SEE THE"
440 PRINT "SPANISH-ENGLISH VERSION ...";
450 GET K$
460 HOME : PRINT MH$
470 PRINT "SPANISH-ENGLISH TRANSLATION:": PRINT
480 M$ = M2$: GOSUB 570
```

```
490 HTAB 1: VTAB 20
500 PRINT "STRIKE THE RETURN KEY TO DO ANOTHER"
510 PRINT "TRANSLATION (OR STRIKE THE X KEY"
520 PRINT "TO END THE PROGRAM) ...";
530 GET K$
540 IF ASC (K$) = 13 THEN 170
550 IF K$ = "X" THEN HOME : END
560 GOTO 530
570 FOR N = 1 TO LEN (M$)
580 C = ASC ( MID$ (M$,N,1))
590 PRINT CHR$ (C);
600 IF POS (X) > 35 AND C = 32 THEN PRINT
610 NEXT N
620 RETURN
```


Program 14 PIG-LATIN GENERATOR

"Ifa ouya anca eadra istha, ouya area oota arnda osecla."

—Ullafa Olonyba

It is often difficult to assess the most positive elements of modernized American education. It is far easier to feel badly about what has been lost. Four generations of Americans have not been exposed to the beauty and cultural insight that is inherent in a serious study of Pig Latin.

```
10  REM  ** PIG-LATIN GENERATOR **
20  REM
30  FOR N = 1 TO 10:H$ = H$ + CHR$(32): NEXT N
40  H$ = H$ + "PIG-LATIN GENERATOR" + CHR$(13)
50  FOR N = 1 TO 40:H$ = H$ + ",": NEXT N
60  DIM W$(101)
70  TEXT : HOME : PRINT H$
80  PRINT "ENTER A PLAIN-ENGLISH PHRASE OR SEN-"
90  PRINT "TENCE OF LESS THAN 100 WORDS. PLEASE"
100 PRINT "USE NO PUNCTUATION AND DO NOT STRIKE"
110 PRINT "THE RETURN KEY UNTIL YOU ARE DONE."
120 PRINT
130 INPUT P$
140 IF LEN(P$) > 1 THEN 170
150 PRINT : PRINT "QUIT FOOLING AROUND. TRY AGAIN ..."
160 PRINT : GOTO 130
170 IF LEN(P$) < 220 THEN 210
180 PRINT : PRINT "SORRY, TOO MANY CHARACTERS."
190 PRINT "ENTER AGAIN AS SOON AS WE'RE SET UP."
200 FOR T = 0 TO 2500: NEXT T: GOTO 70
210 HOME : PRINT H$
220 PRINT "HERE IS YOUR PLAIN-ENGLISH ENTRY:": PRINT
230 M$ = P$: GOSUB 670
240 W = 1
250 FOR N = 1 TO LEN(P$)
260 CH$ = MID$(P$,N,1)
270 IF CH$ = CHR$(32) THEN 290
280 W$(W) = W$(W) + CH$: GOTO 350
290 W = W + 1
300 IF W < 100 THEN 350
310 PRINT : PRINT "SORRY, TOO MANY WORDS."
320 PRINT "ENTER A SHORTER VERSION AS SOON AS"
330 PRINT "WE'RE SET UP AGAIN."
340 FOR T = 0 TO 2500: NEXT T: GOTO 70
350 NEXT N
360 VTAB 21: PRINT "PLEASE WAIT A MOMENT."
370 FOR N = 1 TO W
380 FOR M = 1 TO LEN(W$(N))
390 CH$ = MID$(W$(N),M,1)
400 F$ = ""
410 RESTORE
420 DATA A,E,I,O,U
```

```

430 FOR X = 1 TO 5
440 READ D$
450 IF CH$ < > D$ THEN 490
460 IF M = 1 THEN 480
470 F$ = LEFT$ (W$(N),M - 1)
480 W$(N) = MID$ (W$(N),M) + F$ + "A": GOTO 500
490 NEXT X,M
500 NEXT N
510 PO$ = ""
520 FOR N = 1 TO W
530 PO$ = PO$ + W$(N) + CHR$ (32)
540 NEXT N
550 VTAB 21: PRINT "OK, STRIKE ANY KEY TO SEE THE PIG-"
560 PRINT "LATIN VERSION ...";
570 GET K$
580 HOME : PRINT H$
590 PRINT "PIG-LATIN VERSION:": PRINT
600 M$ = PO$: GOSUB 670
610 FOR N = 1 TO 100:W$(N) = "": NEXT N
620 VTAB 21: PRINT "WANT TO DO ANOTHER TRANSLATION (Y/N)?";
630 GET K$
640 IF K$ = "Y" THEN 70
650 IF K$ = "N" THEN HOME : END
660 GOTO 630
670 FOR N = 1 TO LEN (M$)
680 CH$ = MID$ (M$,N,1)
690 PRINT CH$;
700 IF POS (X) > 32 AND CH$ = CHR$ (32) THEN PRINT
710 NEXT N: PRINT
720 RETURN

```

Program 15 SINGING COMPUTER

"Ah, [it is] music to mine ears."

—Beethoven

```
10 REM ** SINGING COMPUTER **
20 REM
30 FOR N = 1 TO 12:M$ = M$ + CHR$ (32): NEXT N
40 M$ = M$ + "SINGING COMPUTER" + CHR$ (13)
50 FOR N = 1 TO 40:M$ = M$ + "#": NEXT N
60 TEXT : HOME : PRINT M$
70 GOSUB 210
80 VTAB 22: PRINT "STRIKE ANY KEY TO STOP THE MUSIC ...";
90 HTAB 1: VTAB 6
100 R = 8 * RND (1) + 1
110 POKE 6,R
120 POKE 7,40 * RND (1) + 20
130 IF R > 6 THEN PRINT "DAH.": CALL - 868: GOTO 160
140 IF R > 4 THEN PRINT "LA-"; GOTO 150
150 PRINT "DE-";
160 CALL 768
170 IF PEEK (37) > 19 THEN HTAB 1: VTAB 6
180 K = PEEK ( - 16384): POKE - 16368,0
190 IF K > 127 THEN HOME : END
200 GOTO 100
210 DATA 164,6,162,4,165,7,32,168,252,173
220 DATA 48,192,202,208,245,136
230 DATA 208,240,96
240 FOR A = 0 TO 18
250 READ D: POKE 768 + A,D
260 NEXT A
270 RETURN
```

Program 16 MUSICAL KEYBOARD

"Play it again, Sam."

—Attributed to the film, *Casablanca*

```
10 REM ** MUSICAL KEYBOARD **
20 REM
30 FOR N = 1 TO 12:M$ = M$ + CHR$(32): NEXT N
40 M$ = M$ + "MUSICAL KEYBOARD" + CHR$(13)
50 FOR N = 1 TO 40:M$ = M$ + "#": NEXT N
60 GOSUB 190
70 POKE 6,8
80 TEXT : HOME : PRINT M$
90 PRINT : PRINT "TICKLE THE KEYS ..."
100 VTAB 21: PRINT "TYPE * TO DO SOMETHING ELSE ..."
110 VTAB 8
120 GET K$: IF K$ = "*" THEN HOME : END
130 IF ASC (K$) < 33 THEN 120
140 PRINT CHR$(32);
150 POKE 7, ASC (K$) - 32
160 CALL 768
170 IF PEEK (37) > 19 THEN VTAB 8
180 GOTO 120
190 DATA 164,6,162,4,165,7,32,168,252,173
200 DATA 48,192,202,208,245,136
210 DATA 208,240,96
220 FOR A = 0 TO 18
230 READ D: POKE 768 + A,D
240 NEXT A
250 RETURN
```

Program 17 ✓ CRYPTOGRAM GENERATOR

"Bvo xgzmt dt bvo bvdij"

—T vzpotxozso

If you are a cryptogram puzzle fan, you will no longer have to spend money on puzzle books and magazines.

```
10 REM ** CRYPTOGRAM GENERATOR **
20 REM
30 DIM C(26)
40 P$(1) = "CRYPTOGRAM" + CHR$(32)
50 P$(2) = "GENERATOR"
60 FOR K = 1 TO 40: P$(3) = P$(3) + "=" : NEXT K
70 P$(3) = CHR$(13) + P$(3) + CHR$(13)
80 TEXT : HOME : PRINT P$(1); P$(2); P$(3)
90 PRINT : PRINT "NOW GENERATING THE CODE."
100 VTAB 16: PRINT "PLEASE ";
110 FLASH : PRINT "WAIT"; : NORMAL
120 PRINT " A MOMENT ..."
130 FOR N = 1 TO 26
140 C(N) = INT(26 * RND(1)) + 1
150 IF N = 1 THEN 200
160 FOR X = 1 TO N - 1
170 W = PEEK(-16336)
180 IF C(N) = C(X) THEN 140
190 NEXT X
200 NEXT N
210 CALL -198
220 HOME : PRINT P$(1); P$(2); P$(3)
230 PRINT "ENTER THE MESSAGE TO BE ENCODED."
240 PRINT "ENCLOSE IT IN QUOTES AND USE NO MORE"
250 PRINT "THAN 160 CHARACTERS (ABOUT 4 FULL"
260 PRINT "LINES).": PRINT
270 INPUT PLAIN$
280 L = LEN(PLAIN$)
290 IF L < 1 THEN 220
300 IF L <= 160 THEN 330
310 PRINT : PRINT "TOO LONG. TRY AGAIN ...": PRINT
320 GOTO 270
330 HOME : PRINT P$(1); P$(3)
340 PUZZLE$ = ""
350 FOR N = 1 TO L
360 CHAR = ASC(MID$(PLAIN$, N, 1))
370 IF CHAR < 65 OR CHAR > 90 THEN 390
380 CHAR = C(CHAR - 64) + 64
390 PUZZLE$ = PUZZLE$ + CHR$(CHAR)
400 NEXT N
410 PRINT PUZZLE$
420 VTAB 21: PRINT "STRIKE ANY KEY TO SEE THE ANSWER ...";
430 GET K$
440 HOME : PRINT P$(1); P$(3)
```

```
450 PRINT PUZZLE$: PRINT : PRINT : PRINT PLAIN$
460 VTAB 21: PRINT "DO YOU WANT TO DO ANOTHER CRYPTOGRAM"
470 PRINT "(Y/N)?";
480 GET K$
490 IF K$ = "Y" THEN 80
500 IF K$ = "N" THEN END
510 GOTO 480
```

Program 18 WORLD BANK UPDATE

1723-44458-200010

—(Paul's Swiss bank account number)

```
10 REM ** WORLD BANK UPDATE **
20 REM
30 FOR K = 1 TO 10:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "MONETARY CONVERSION" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "$": NEXT K
60 FOR N = 1 TO 6: READ C$(N): NEXT N
70 TEXT : HOME : PRINT M$
80 PRINT "THE WORLD'S MONETARY PICTURE IS OFTEN"
90 PRINT "UNSTABLE AGAINST THE AMERICAN DOLLAR."
100 PRINT : PRINT "THIS PROGRAM HELPS YOU KEEP TRACK OF"
110 PRINT "THE SITUATION AT 30-SECOND INTERVALS."
120 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
130 GET K$
140 HOME : PRINT M$
150 PRINT "ENTER THE CURRENT HOUR (1-12) ";
160 INPUT " ";CH:CH = INT (CH)
170 IF CH > 0 AND CH < = 12 THEN 190
180 PRINT "TRY AGAIN ..."; GOTO 160
190 PRINT : PRINT "ENTER THE CURRENT MINUTE (0-59) ";
200 INPUT " ";CM:CM = INT (CM)
210 IF CM > = 0 AND CM < = 59 THEN 350
220 PRINT "TRY AGAIN ..."; GOTO 200
230 HOME : PRINT M$
240 VTAB 6
250 FOR N = 1 TO 6
260 D$ = LEFT$ ( STR$ ( 4 * RND (1) + 1),4) + CHR$ (32)
270 PRINT "$1 U.S. = "D$;C$(N)
280 PRINT : NEXT N
290 HTAB 1: VTAB 21
300 PRINT "STRIKE ANY KEY TO CLOSE FOR THE DAY ..."
310 RETURN
320 DATA AUSTRALIAN DOLLARS,BRAZILIAN CRUZEIROS
330 DATA CHINESE YUAN,FRENCH FRANCS
340 DATA DEUTSCHE MARKS,BRITISH POUNDS
350 FOR HR = CH TO 12
360 FOR MN = CM TO 59
370 FOR SC = 0 TO 59
380 IF SC = 0 OR SC = 30 THEN GOSUB 230
390 HR$ = "0" + STR$ (HR)
400 IF LEN (HR$) > 2 THEN HR$ = RIGHT$ (HR$,2)
410 MN$ = "0" + STR$ (MN)
420 IF LEN (MN$) > 2 THEN MN$ = RIGHT$ (MN$,2)
430 SC$ = "0" + STR$ (SC)
440 IF LEN (SC$) > 2 THEN SC$ = RIGHT$ (SC$,2)
450 T$ = HR$ + ":" + MN$ + ":" + SC$
460 HTAB 1: VTAB 4
470 INVERSE : PRINT T$: NORMAL
480 FOR T = 0 TO 30
```

```
490 K = PEEK ( - 16384): POKE - 16368,0
500 IF K > 127 THEN VTAB 22: END
510 NEXT T
520 NEXT SC,MN
530 CM = 0: NEXT HR
540 CH = 1: GOTO 350
```


Program 19 SPOONERISMS

Customer: Give me a cup of tea and a muttered buffin.

Waitress: You mean a buffered muttin.

Customer: No, I mean a muffered buttin.

Waitress: Why not settle for tea and doughnuts?

—Overheard in truck stop near Virginia Beach

```
10 REM ** SPOONERISMS **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "SPOONERISMS" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "HERE IS A SPOONERISM:": PRINT
80 PRINT TAB(5)"BUTTERED TOAST"
90 PRINT TAB(9)"IS"
100 PRINT TAB(5)"TUTTERED BOAST"
110 VTAB 21: PRINT "STRIKE ANY KEY TO DO SOME SPOONER-"
120 PRINT "ISMS OF YOUR OWN...";
130 GET K$
140 HOME : PRINT M$
150 PRINT "ENTER A 2-WORD PHRASE:": PRINT
160 INPUT P$
170 IF LEN(P$) > 1 THEN 190
180 PRINT : GOTO 150
190 X$ = P$: GOSUB 420
200 G$ = RIGHT$(X$,LP - LEN(Y$))
210 F$ = Y$
220 LP = LEN(G$)
230 FOR N = 1 TO LP
240 CH$ = MID$(G$,N,1)
250 IF CH$ = CHR$(32) THEN 280
260 NEXT N
270 PRINT : PRINT "NOT ENOUGH WORDS. TRY AGAIN.": GOTO 150
280 H$ = RIGHT$(G$,LP - N)
290 G$ = LEFT$(G$,N)
300 X$ = H$: GOSUB 420
310 I$ = RIGHT$(X$,LP - LEN(Y$))
320 L$ = Y$
330 HOME : PRINT M$: PRINT
340 PRINT P$: PRINT : PRINT "IS": PRINT
350 PRINT L$ + G$ + CHR$(32) + F$ + I$
360 VTAB 21: PRINT "WANT TO DO ANOTHER ONE (Y/N)?";
370 GET K$: IF K$ = "Y" THEN 140
380 IF K$ = "N" THEN HOME : END
390 GOTO 370
410 DATA A,E,I,O,U
420 LP = LEN(X$)
430 Y$ = ""
440 FOR N = 1 TO LP
450 CH$ = MID$(X$,N,1)
```

```
460  RESTORE
470  FOR X = 1 TO 5: READ D$
480  IF D$ = CH$ THEN RETURN
490  NEXT X
500  Y$ = Y$ + CH$
510  NEXT N
520  RETURN
```

Program 20 TYPING HELPER

"The man who makes no mistakes does not usually make anything."

—Bishop W.C. Magee

If you experience any difficulty with the use of this program, you might do well to consult the Cussing Program.

```
10 REM ** TYPING HELPER **
20 HTAB 1: VTAB 21
30 FOR N = 1 TO 14: X$ = X$ + CHR$ (32): NEXT N
40 FOR N = 1 TO 40: Y$ = Y$ + " ": NEXT N
50 M$ = X$ + "TYPING HELPER" + CHR$ (13) + Y$
60 TEXT : HOME : PRINT M$
70 E = 0
80 PRINT "TYPE A SENTENCE OF YOUR CHOICE. DO NOT"
90 PRINT "STRIKE THE RETURN KEY UNTIL YOU ARE"
100 PRINT "DONE."
110 PRINT Y$
120 VTAB 8
130 GOTO 190
140 GET K$
150 IF K$ = CHR$ (13) THEN 270
160 IF ASC (K$) < 64 OR INT (6 * RND (1)) < > 0 THEN
170 E = E + 1
180 K$ = CHR$ (32 * RND (1) + 64)
190 CH = PEEK (36): CV = PEEK (37)
200 HTAB 1: VTAB 21
210 INVERSE : PRINT "ERRORS: "E
220 NORMAL : HTAB CH + 1: VTAB CV + 1
230 CALL - 198
240 IF PEEK (37) > 18 THEN HTAB 1: VTAB 10
250 PRINT K$;
260 GOTO 140
270 HTAB 1: VTAB 23
280 PRINT "WANT TO TRY DOING BETTER (Y/N)?";
290 GET S$
300 IF S$ = "N" THEN END
310 IF S$ = "Y" THEN 60
320 GOTO 290
```

Program 21 LETTER SCRAMBLER

Q: What four-letter word, when printed in capitals, reads the same forward, backward and upside down?

A: NOON

```
10  RE:  ** LETTER SCRAMBLER **
20  REM
30  FOR N = 1 TO 12: X$ = X$ + CHR$ (32)
40  FOR N = 1 TO 40: Y$ = Y$ + "=": NEXT N
50  M$ = X$ + "LETTER SCRAMBLER" + CHR$ (13) + Y$
60  TEXT : HOME : PRINT M$
70  PRINT "THIS PROGRAM ALLOWS YOU TO ENTER A WORD"
80  PRINT "OR PHRASE OF 16 CHARACTERS OR LESS. IT"
90  PRINT "THEN SCRAMBLES THE CHARACTERS FOR YOU."
100 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
110 GET K$
120 DIM CH$(17), C(17)
130 HOME : PRINT M$
140 PRINT "ENTER A WORD OR PHRASE OF 16 CHARACTERS"
150 PRINT "OR LESS. ENCLOSE YOUR ENTRY IN QUOTES"
160 PRINT "IF YOU MUST USE A COMMA OR APOSTROPHE."
170 PRINT : INPUT FW$
180 L = LEN (FW$)
190 IF L > 0 THEN 220
200 PRINT "PLEASE ENTER SOMETHING."
210 GOTO 170
220 IF L < 17 THEN 240
230 PRINT : PRINT "TOO MANY CHARACTERS. TRY AGAIN.": GOTO 170
240 VTAB 16: CALL - 958
250 VTAB 21: PRINT "PLEASE WAIT ..."
260 FOR N = 1 TO L
270 CH$(N) = MID$ (FW$, N, 1)
280 C(N) = INT (L * RND (1)) + 1
290 IF N = 1 THEN 330
300 FOR X = 1 TO N - 1
310 IF C(N) = C(X) THEN 280
320 NEXT X
330 NEXT N
340 SW$ = ""
350 FOR N = 1 TO L
360 SW$ = SW$ + CH$(C(N))
370 NEXT N
380 HOME : PRINT M$
390 PRINT "ORIGINAL VERSION:"
400 PRINT : PRINT TAB( 5)FW$
410 PRINT : PRINT "SCRAMBLED VERSION:"
420 PRINT : PRINT TAB( 5)SW$
430 PRINT : PRINT Y$
440 VTAB 18
450 PRINT "SELECT ONE:": PRINT
460 PRINT TAB( 5)"1 - SCRAMBLE THE SAME WORD AGAIN."
470 PRINT TAB( 5)"2 - SCRAMBLE A NEW WORD."
```

```
480 PRINT TAB( 5)"3 - END THE PROGRAM.  
490 GET K$  
500 IF K$ < "1" OR K$ > "3" THEN 490  
510 ON VAL (K$) GOTO 240,130  
520 END
```

Program 22 LETTER-SCRAMBLE GAME

"Dmoph glubble muff pssht wumph!"

—Demosthenes

```
10 REM ** LETTER-SCRAMBLE GAME **
20 REM
30 DIM CH$(16),C(16)
40 FOR K = 1 TO 10:M$ = M$ + CHR$(32): NEXT K
50 M$ = M$ + "LETTER-SCRAMBLE GAME" + CHR$(13)
60 FOR K = 1 TO 40:M$ = M$ + "-": NEXT K
70 TEXT : HOME : PRINT M$
80 PRINT "THIS IS A WORD-GUESSING GAME FOR TWO"
90 PRINT "PLAYERS.": PRINT
100 FOR N = 1 TO 2
110 PRINT
120 PRINT "PLAYER "N", ENTER YOUR FIRST NAME:": PRINT
130 HTAB 1: VTAB 4 * N + 6: CALL - 868
140 INPUT "":N$(N)
150 CALL - 958
160 IF LEN(N$(N)) < 1 THEN 130
170 IF LEN(N$(N)) < 12 THEN 190
180 PRINT "AWW, GET SERIOUS. TRY AGAIN ...": GOTO 130
190 NEXT N
200 PH = 1
210 HOME : PRINT M$
220 EP$ = N$(1):GP$ = N$(2)
230 IF PH = - 1 THEN EP$ = N$(2):GP$ = N$(1)
240 PRINT EP$, "MAKE YOUR ENTRY:": PRINT
250 PRINT "ENTER A WORD OR SHORT PHRASE UP TO 16"
260 PRINT "CHARACTERS LONG. ENCLOSE IT IN QUOTES"
270 PRINT "IF YOU USE A COMMA OR APOSTROPHE, AND"
280 PRINT "MAKE SURE THAT YOUR OPPONENT ISN'T"
290 PRINT "LOOKING OVER YOUR SHOULDER."
300 PRINT : INPUT FW$
310 L = LEN(FW$)
320 IF L > 1 THEN 340
330 PRINT "YOU MUST ENTER SOMETHING ...": GOTO 300
340 IF L < 17 THEN 370
350 PRINT "TOO MANY CHARACTERS. TRY AGAIN ..."
360 GOTO 300
370 VTAB 21: PRINT "PLEASE WAIT ..."
380 SW$ = ""
390 FOR N = 1 TO L
400 CH$(N) = MID$(FW$,N,1)
410 C(N) = INT(L * RND(1)) + 1
420 IF N = 1 THEN 460
430 FOR X = 1 TO N - 1
440 IF C(N) = C(X) THEN 410
450 NEXT X
460 NEXT N
470 FOR N = 1 TO L
480 SW$ = SW$ + CH$(C(N))
```

```

490 NEXT N
500 HOME : PRINT M$
510 PRINT "OK,"GP$":": PRINT
520 PRINT "SEE IF YOU CAN GUESS THIS WORD:"
530 HTAB (40 - L) / 2: VTAB 8
540 INVERSE : PRINT SW$: NORMAL
550 PRINT : PRINT "ENTER YOUR GUESS WHEN YOU THINK YOU'VE"
560 PRINT "FIGURED IT OUT ..."
570 PRINT : INPUT GW$
580 IF LEN (GW$) > 1 THEN 600
590 PRINT "YOU MUST ENTER SOMETHING. TRY AGAIN ...": GOTO 570
600 HOME : PRINT M$
610 PRINT : PRINT EP$"'S WORD WAS:"
620 PRINT : PRINT TAB( 5)FW$
630 PRINT : PRINT GP$"'S GUESS IS:"
640 PRINT : PRINT TAB( 5)GW$
650 PRINT
660 IF GW$ = FW$ THEN 750
670 PRINT : PRINT "SORRY ABOUT THAT, "GP$"."
680 PRINT EP$" OUTSMARTED YOU."
690 PRINT : PRINT "YOU HAVE TO GUESS AGAIN."
700 GOSUB 830
710 GET K$
720 IF K$ = "X" THEN HOME : END
730 IF K$ = CHR$ (32) THEN 210
740 GOTO 710
750 PRINT : PRINT "THAT'S GOOD, "GP$"."
760 PRINT : PRINT "NOW IT IS YOUR TURN TO SEE IF YOU CAN"
770 PRINT "OUTSMART "EP$"."
780 GOSUB 830
790 GET K$
800 IF K$ = CHR$ (32) THEN PH = PH * - 1: GOTO 210
810 IF K$ = "X" THEN HOME : END
820 GOTO 790
830 VTAB 21: PRINT "STRIKE THE SPACE BAR TO CONTINUE"
840 PRINT "(OR THE X KEY TO END THE GAME)...";
850 RETURN

```

Program 23 WORD-SCRAMBLE GAME

"No I don't. I don't no. Don't I no."

—I.M. Reatching

```
10 REM ** WORD-SCRAMBLE GAME **
20 REM
30 DIM W$(51),C(51)
40 FOR K = 1 TO 11:M$ = M$ + CHR$(32): NEXT K
50 M$ = M$ + "WORD-SCRAMBLE GAME" + CHR$(13)
60 FOR K = 1 TO 40:M$ = M$ + "-": NEXT K
70 TEXT : HOME : PRINT M$
80 PRINT "THIS IS A WORD-SCRAMBLING GUESSING GAME"
90 PRINT "FOR TWO PLAYERS.": PRINT
100 FOR N = 1 TO 2
110 PRINT
120 PRINT "PLAYER "N", ENTER YOUR FIRST NAME:": PRINT
130 HTAB 1: VTAB 4 * N + 6: CALL - 868
140 INPUT "":N$(N)
150 CALL - 958
160 IF LEN (N$(N)) < 1 THEN 130
170 IF LEN (N$(N)) < 12 THEN 190
180 PRINT "AWW, GET SERIOUS. TRY AGAIN ...": GOTO 130
190 NEXT N
200 PH = 1
210 HOME : PRINT M$
220 FOR N = 1 TO W:W$(N) = "": NEXT N
230 EP$ = N$(1):GP$ = N$(2)
240 IF PH = - 1 THEN EP$ = N$(2):GP$ = N$(1)
250 PRINT EP$:": PRINT
260 PRINT "ENTER A PHRASE OR SENTENCE OF 50 WORDS"
270 PRINT "OR LESS. USE NO PUNCTUATION, DO NOT"
280 PRINT "STRIKE THE RETURN KEY UNTIL YOU ARE"
290 PRINT "DONE, AND MAKE SURE THAT YOUR OPPONENT"
300 PRINT "ISN'T LOOKING OVER YOUR SHOULDER."
310 PRINT
320 INPUT FW$
330 L = LEN (FW$)
340 IF L < 1 THEN 320
350 W = 1
360 FOR N = 1 TO LEN (FW$)
370 CH$ = MID$(FW$,N,1)
380 IF CH$ = CHR$(32) THEN 400
390 W$(W) = W$(W) + CH$: GOTO 460
400 W = W + 1
410 IF W < 50 THEN 460
420 PRINT : PRINT "SORRY, TOO MANY WORDS."
430 PRINT "ENTER A SHORTER VERSION AS SOON AS"
440 PRINT "WE'RE SET UP AGAIN."
450 FOR T = 0 TO 2500: NEXT T: GOTO 390
460 NEXT N
470 VTAB 21: PRINT "ARE YOU SATISFIED (Y/N)?"
480 GET K$
```



```

490 IF K$ = "Y" THEN 520
500 IF K$ = "N" THEN 210
510 GOTO 480
520 HOME : PRINT M$
530 VTAB 21: PRINT "PLEASE WAIT ..."
540 FOR N = 1 TO W
550 C(N) = INT (W * RND (1)) + 1
560 IF N = 1 THEN 600
570 FOR X = 1 TO N - 1
580 IF C(N) = C(X) THEN 550
590 NEXT X
600 NEXT N
610 SW$ = ""
620 FOR N = 1 TO W
630 SW$ = SW$ + W$(C(N)) + CHR$ (32)
640 NEXT N
650 SW$ = LEFT$ (SW$, LEN (SW$) - 1)
660 HOME : PRINT M$
670 PRINT "OK,"GP$":": PRINT
680 PRINT "SEE IF YOU CAN UNSCRAMBLE THIS PHRASE:"
690 PRINT
700 H$ = SW$: GOSUB 1030
710 HTAB 1: VTAB 16
720 PRINT "ENTER YOUR INTERPRETATION:": PRINT
730 INPUT " ";WG$
740 HOME : PRINT M$
750 PRINT : PRINT EP$"'S PHRASE WAS:"
760 PRINT :H$ = FW$: GOSUB 1030
770 PRINT : PRINT GP$"'S GUESS IS:"
780 PRINT :H$ = WG$: GOSUB 1030
790 PRINT
800 GOSUB 1000
810 GET K$
820 HOME : PRINT M$
830 IF WG$ = FW$ THEN 920
840 PRINT : PRINT "SORRY ABOUT THAT, "GP$"."
850 PRINT EP$" OUTSMARTED YOU."
860 PRINT : PRINT "YOU HAVE TO GUESS AGAIN."
870 GOSUB 1000
880 GET K$
890 IF K$ = "X" THEN HOME : END
900 IF K$ = CHR$ (32) THEN 210
910 GOTO 880
920 PRINT : PRINT "THAT'S GOOD, "GP$"."
930 PRINT : PRINT "NOW IT IS YOUR TURN TO SEE IF YOU CAN"
940 PRINT "OUTSMART "EP$"."
950 GOSUB 1000
960 GET K$
970 IF K$ = CHR$ (32) THEN PH = PH * - 1: GOTO 210
980 IF K$ = "X" THEN HOME : END
990 GOTO 960
1000 VTAB 21: PRINT "STRIKE THE SPACE BAR TO CONTINUE"
1010 PRINT "(OR THE X KEY TO END THE GAME)...";
1020 RETURN
1030 INVERSE : FOR N = 1 TO LEN (H$)
1040 CH$ = MID$ (H$,N,1)

```

```
1050 PRINT CH$;  
1060 IF POS (X) > 32 AND CH$ = CHR$ (32) THEN PRINT  
1070 NEXT N: PRINT  
1080 NORMAL  
1090 RETURN
```

Program 24 BREAK TIME

"A break in time is worth nine."

—Anonymous

```
10 REM ** BREAK TIME **
20 REM
30 FOR K = 1 TO 15:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "BREAK TIME" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "¶": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "COMPUTERS NEED A BREAK NOW AND THEN,"
80 PRINT "TOO. THIS PROGRAM ENHANCES THAT FEATURE"
90 PRINT "BY GIVING YOUR COMPUTER A SHORT REST --"
100 PRINT "IT MIGHT EVEN FALL ASLEEP."
110 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
120 GET K$
130 HOME : PRINT M$
140 HTAB 1: VTAB 4
150 FOR N = 0 TO 50 * RND (1) + 20
160 PRINT "I'M WORKING - ";
170 FOR T = 0 TO 200: NEXT T
180 IF PEEK (37) < 22 THEN 200
190 HOME : PRINT M$: HTAB 1: VTAB 4
200 NEXT N
210 FOR N = 1 TO 5: CALL - 198: NEXT N
220 FLASH : PRINT "NAP ATTACK!": NORMAL
230 FOR T = 1 TO 2000: NEXT T
240 FOR N = 1 TO 15 * RND (1) + 10
250 IF PEEK (37) > 20 THEN HTAB 1: VTAB 4
260 PRINT "Z-Z-Z-";: CALL - 868
270 FOR T = 1 TO 100
280 X = PEEK ( - 16336)
290 NEXT T
300 FOR T = 1 TO 500: NEXT T
310 NEXT N
320 FOR N = 1 TO 5: CALL - 198: NEXT N
330 HOME : PRINT M$
340 FLASH : PRINT "I'M AWAKE": NORMAL
350 PRINT : PRINT "PUT ME TO WORK ..."
360 END
```

Program 25 ESP

"Dee-dah-dee-ding/ dee-dah-dee-ding . . ."

—Theme tune of TV's *Twilight Zone*

```
10 REM    ** ESP **
20 REM
30 FOR N = 1 TO 18:X$ = X$ + CHR$ (32): NEXT N
40 Y$ = CHR$ (13)
50 FOR N = 1 TO 40:Y$ = Y$ + CHR$ (63): NEXT N
60 M$ = X$ + "ESP" + CHR$ (13) + Y$
70 TEXT : HOME : PRINT M$: PRINT
80 PRINT "THIS PROGRAM DEMONSTRATES THE FACT THAT"
90 PRINT "COMPUTERS DO, INDEED, POSSESS A FORM OF"
100 PRINT "EXTRA-SENSORY PERCEPTION (ESP)."
```

110 PRINT : PRINT "THE DEMONSTRATION WORKS BEST IF YOU USE"

120 PRINT "AN ELECTRONIC CALCULATOR, BUT THE COM—"
130 PRINT "PUTER CAN READ YOUR BRAIN WAVES WHEN—"
140 PRINT "EVER THE WEATHER IS JUST RIGHT. (SEE"
150 PRINT "THE WEATHER FORECASTING PROGRAM.)"

160 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
170 GET K\$

180 HOME : PRINT M\$
190 FLASH : PRINT "THINK";: NORMAL
200 PRINT " OF ANY NUMBER BETWEEN 1 AND 100."

210 GOSUB 520
220 M = INT (10 * RND (1) + 1)
230 PRINT "MULTIPLY YOUR ORIGINAL NUMBER BY "M"."
240 PRINT : PRINT : INVERSE
250 PRINT "BUT DON'T TELL YOUR COMPUTER ANYTHING!!"
260 NORMAL : GOSUB 520
270 A = INT (5 * RND (1)) * M
280 PRINT "NOW ADD "A" TO THE PREVIOUS RESULT."
290 PRINT : PRINT : INVERSE
300 PRINT "BUT DON'T EVEN WHISPER THE RESULT.": NORMAL
310 PRINT : PRINT "HINT: THINK CONFUSING THOUGHTS."
320 GOSUB 520
330 PRINT "DIVIDE THE LAST RESULT BY "M"."
340 PRINT : PRINT "AGAIN, DON'T TELL THE COMPUTER ANYTHING!"
350 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
360 GET K\$: GOSUB 550: HOME : PRINT M\$
370 PRINT "FINALLY, SUBTRACT YOUR ORIGINAL NUM—"
380 PRINT "BER FROM THE LAST RESULT."
390 PRINT : PRINT "THINK CONFUSING THOUGHTS."
400 GOSUB 520
410 FOR N = 1 TO 4: CALL - 198: NEXT N
420 SPEED= 10: PRINT "THE ANSWER IS: ";
430 SPEED= 255
440 FOR N = 1 TO 4: CALL - 198: NEXT N
450 L = A / M: PRINT L
460 VTAB 21
470 PRINT "DO YOU WANT TO CONTINUE WITH THIS"
480 PRINT "FOOLISHNESS (Y/N)?";

```
490 GET K$
500 IF K$ = "Y" THEN 180
510 GOSUB 550: TEXT : HOME : END
520 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
530 GET K$: GOSUB 550: HOME : PRINT M$
540 RETURN
550 POKE - 16304,0: POKE - 16302,0
560 FOR N = 1 TO 20
570 POKE - 16297,0
580 FOR T = 0 TO 10
590 X = PEEK ( - 16336)
600 NEXT T
610 POKE - 16298,0
620 NEXT N
630 TEXT : RETURN
```

Program 26 WORD UNSCRAMBLER

"What really counts is what you learn after you know it all."

—Uncertain

Are you tired of being defeated by word-scramble puzzles? This program might not give you the exact solutions, but it sure provides some great hints.

```
10 REM ** WORD UNSCRAMBLER **
20 REM
30 FOR N = 1 TO 40:Y$ = Y$ + "-": NEXT N
40 TEXT : HOME : PRINT "WORD UNSCRAMBLER"
50 PRINT Y$
60 PRINT "ENTER A WORD THAT IS TO BE UNSCRAMBLED"
70 PRINT "(NO MORE THAN 16 LETTERS):"
80 PRINT : INPUT " ";SW$
90 L = LEN (SW$)
100 IF L < 1 THEN 80
110 IF L < = 16 THEN 130
120 PRINT "THE WORD IS TOO LONG. TRY AGAIN ...": GOTO
130 K = 1
140 FOR N = 1 TO L
150 K = K * N
160 NEXT N
170 HOME
180 INVERSE : PRINT SW$: NORMAL
190 PRINT
200 PRINT "UP TO "K" COMBINATIONS"
210 PRINT Y$
220 FOR XL = 1 TO 16
230 FOR N = 1 TO L
240 C(N) = INT (L * RND (1)) + 1
250 IF N = 1 THEN 290
260 FOR X = 1 TO N - 1
270 IF C(N) = C(X) THEN 240
280 NEXT X
290 PRINT MID$ (SW$,C(N),1);
300 NEXT N
310 PRINT
320 NEXT XL
330 PRINT : PRINT "STRIKE THE SPACE BAR TO SEE MORE"
340 PRINT "(OR THE X KEY TO END)...";
350 GET K$
360 IF K$ = CHR$ (32) THEN 170
370 IF K$ = "X" THEN END
380 GOTO 350
```

Program 27 MISSING LETTERS

"Watson, there is perhaps more than one letter missing."

—Sherlock Holmes

```
10 REM ** MISSING LETTERS **
20 REM
30 FOR K = 1 TO 12:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "MISSING LETTERS" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + "-": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "THIS IS A WORD GAME FOR TWO PLAYERS."
80 PRINT
90 FOR N = 1 TO 2
100 PRINT
110 PRINT "PLAYER "N", ENTER YOUR FIRST NAME:": PRINT
120 HTAB 1: VTAB 4 * N + 6: CALL - 868
130 INPUT "":N$(N)
140 CALL - 958
150 IF LEN (N$(N)) < 1 THEN 120
160 IF LEN (N$(N)) < 12 THEN 180
170 PRINT "AWW, GET SERIOUS. TRY AGAIN ...": GOTO 120
180 NEXT N
190 PH = 1
200 HOME : PRINT M$
210 EP$ = N$(1):GP$ = N$(2)
220 IF PH = - 1 THEN EP$ = N$(2):GP$ = N$(1)
230 PRINT EP$, MAKE YOUR ENTRY:": PRINT
240 PRINT "ENTER A SHORT PHRASE OR SENTENCE UP TO"
250 PRINT "30 CHARACTERS LONG (CLOSE TO ONE FULL"
260 PRINT "LINE ON THE SCREEN). AVOID PUNCTUATION,"
270 PRINT "AND MAKE SURE THAT YOUR OPPONENT ISN'T"
280 PRINT "LOOKING OVER YOUR SHOULDER."
290 PRINT : INPUT FW$
300 L = LEN (FW$)
310 IF L > 1 THEN 330
320 PRINT "YOU MUST ENTER SOMETHING ...": GOTO 290
330 IF L < = 30 THEN 360
340 PRINT "TOO MANY CHARACTERS. TRY AGAIN ..."
350 GOTO 290
360 SW$ = ""
370 FOR N = 1 TO L
380 CH$ = MID$(FW$,N,1)
390 IF CH$ = CHR$(32) THEN CH$ = "*": GOTO 410
400 IF INT (N / 2) = N / 2 THEN CH$ = "-"
410 SW$ = SW$ + CH$
420 NEXT N
430 HOME : PRINT M$
440 PRINT "OK,"GP$:": PRINT
450 PRINT "THE FOLLOWING MESSAGE SHOWS THE LETTERS"
460 PRINT "IN THEIR CORRECT POSITIONS. THE BLANKS"
470 PRINT "INDICATE MISSING LETTERS AND THE"
480 PRINT "ASTERISK(S) INDICATE SPACES BETWEEN"
```

```

490 PRINT "WORDS."
500 HTAB (40 - L) / 2: VTAB 12
510 PRINT SW$: PRINT
520 PRINT : PRINT "ENTER YOUR GUESS WHEN YOU THINK YOU'VE"
530 PRINT "FIGURED IT OUT ... "
540 PRINT : INPUT GW$
550 IF LEN (GW$) > 1 THEN 570
560 PRINT "YOU MUST ENTER SOMETHING. TRY AGAIN ...": GOTO 540
570 HOME : PRINT M$
580 PRINT : PRINT EP$"'S WORD WAS:"
590 PRINT : PRINT TAB( 5)FW$
600 PRINT : PRINT GP$"'S GUESS IS:"
610 PRINT : PRINT TAB( 5)GW$
620 PRINT
630 IF GW$ = FW$ THEN 720
640 PRINT : PRINT "SORRY ABOUT THAT, "GP$"."
650 PRINT EP$" OUTSMARTED YOU."
660 PRINT : PRINT "YOU HAVE TO GUESS AGAIN."
670 GOSUB 800
680 GET K$
690 IF K$ = "X" THEN HOME : END
700 IF K$ = CHR$ (32) THEN 200
710 GOTO 680
720 PRINT : PRINT "THAT'S GOOD, "GP$"."
730 PRINT : PRINT "NOW IT IS YOUR TURN TO SEE IF YOU CAN"
740 PRINT "OUTSMART "EP$"."
750 GOSUB 800
760 GET K$
770 IF K$ = CHR$ (32) THEN PH = PH * - 1: GOTO 200
780 IF K$ = "X" THEN HOME : END
790 GOTO 760
800 VTAB 21: PRINT "STRIKE THE SPACE BAR TO CONTINUE"
810 PRINT "(OR THE X KEY TO END THE GAME)...";
820 RETURN

```


Program 28 FLASHING-LETTERS GAME

"Methinks there's another puskle comink"

—Popeye

```
10 REM ** FLASHING-LETTERS GAME **
20 REM
30 FOR K = 1 TO 9:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "FLASHING-LETTERS GAME" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + "-": NEXT K
60 TEXT: HOME: PRINT M$
70 PRINT "THIS IS A WORD-GUESSING GAME FOR TWO"
80 PRINT "PLAYERS.": PRINT
90 FOR N = 1 TO 2
100 PRINT
110 PRINT "PLAYER "N", ENTER YOUR FIRST NAME:": PRINT
120 HTAB 1: VTAB 4 * N + 6: CALL - 868
130 INPUT "":N$(N)
140 CALL - 958
150 IF LEN(N$(N)) < 1 THEN 120
160 IF LEN(N$(N)) < 12 THEN 180
170 PRINT "AWW, GET SERIOUS. TRY AGAIN ...": GOTO 120
180 NEXT N
190 PH = 1
200 HOME: PRINT M$
210 EP$ = N$(1):GP$ = N$(2)
220 IF PH = - 1 THEN EP$ = N$(2):GP$ = N$(1)
230 PRINT EP$, "ENTER A WORD.": PRINT
240 PRINT "USE LESS THAN 20 LETTERS, AND MAKE SURE"
250 PRINT "THAT YOUR OPPONENT ISN'T LOOKING OVER"
260 PRINT "YOUR SHOULDER."
270 PRINT
280 INPUT R$
290 L = LEN(R$)
300 IF L < 1 THEN 280
310 IF L < = 20 THEN 330
320 PRINT "TOO LONG. TRY AGAIN ...": GOTO 280
330 HOME: PRINT M$
340 PRINT "OK,"GP$:": PRINT
350 PRINT "SEE IF YOU CAN GUESS THIS WORD:"
360 VTAB 20: PRINT "STRIKE ANY KEY WHEN YOU THINK YOU'VE"
370 PRINT "FIGURED IT OUT ..."
380 FOR K = 1 TO 40:B$ = B$ + CHR$(32): NEXT K
390 CH = INT(40 - L) / 2
400 HTAB 13: VTAB 12: PRINT "FLASHING CLUES"
410 HTAB CH
420 FOR N = 1 TO L: PRINT "=";: NEXT N
430 VTAB 15
440 N = INT(RND(1) * L + 1)
450 C$ = MID$(R$,N,1)
460 H$ = ""
470 FOR K = 1 TO N:H$ = H$ + CHR$(32): NEXT K
480 H$ = H$ + C$
```

```

490 HTAB CH - 1
500 PRINT H$
510 FOR T = 1 TO 80: NEXT T
520 VTAB 15: HTAB CH - 1: PRINT B$
530 FOR T = 1 TO 50: NEXT T
540 KBD = PEEK ( - 16384)
550 POKE - 16368,0
560 IF KBD > 127 THEN 580
570 GOTO 430
580 HTAB 1: VTAB 20: PRINT "WHAT DO YOU THINK IT IS?";
590 CALL - 958: PRINT
600 INPUT " ";WG$
610 HOME : PRINT M$
620 PRINT : PRINT EP$" 'S WORD WAS:"
630 PRINT : PRINT TAB( 5)R$
640 PRINT : PRINT GP$" 'S GUESS IS:"
650 PRINT : PRINT TAB( 5)WG$
660 PRINT
670 IF WG$ = R$ THEN 760
680 PRINT : PRINT "SORRY ABOUT THAT, "GP$"."
690 PRINT EP$" OUTSMARTED YOU."
700 PRINT : PRINT "YOU HAVE TO GUESS AGAIN."
710 GOSUB 840
720 GET K$
730 IF K$ = CHR$ (32) THEN 200
740 IF K$ = "X" THEN HOME : END
750 GOTO 720
760 PRINT : PRINT "THAT'S GOOD, "GP$"."
770 PRINT : PRINT "NOW IT IS YOUR TURN TO SEE IF YOU CAN"
780 PRINT "OUTSMART "EP$"."
790 GOSUB 840
800 GET K$
810 IF K$ = CHR$ (32) THEN PH = PH * - 1: GOTO 200
820 IF K$ = "X" THEN HOME : END
830 GOTO 800
840 VTAB 21: PRINT "STRIKE THE SPACE BAR TO CONTINUE"
850 PRINT "(OR THE X KEY TO END THE GAME)...";
860 RETURN

```

Program 29 CODE SKILL BUILDER

"Practice makes perfect."

—Uncertain

This program is for real. It is worth the time and effort to load this program if you want to learn the International Morse Code.

```
10  REM  ** CODE SKILL BUILDER **
20  REM
30  GOSUB 670
40  FOR N = 1 TO 11:M$ = M$ + CHR$ (32): NEXT N
50 M$ = M$ + "MORSE CODE GENERATOR" + CHR$ (13)
60  FOR N = 1 TO 40:M$ = M$ + " ": NEXT N
70  TEXT : HOME : PRINT M$
80  PRINT "SELECT A TRANSMISSION RATE:"
90  PRINT
100 PRINT TAB( 5)"1 - SLOW
110 PRINT TAB( 5)"2 - MEDIUM
120 PRINT TAB( 5)"3 - FAST
130 PRINT : GET K$
140 IF K$ < "1" OR K$ > "3" THEN 130
150 K = VAL (K$)
160 IF K = 1 THEN POKE 771,8
170 IF K = 2 THEN POKE 771,6
180 IF K = 3 THEN POKE 771,4
190 HOME : PRINT M$
200 K = INT (36 * RND (1)) + 1
210 RESTORE
220 FOR N = 1 TO K: READ D$: NEXT N
230 C$ = LEFT$ (D$,1)
240 HTAB 1: VTAB 4
250 CALL - 958: PRINT "LISTEN ..."
260 FOR T = 0 TO 500: NEXT T
270 GOSUB 530
280 HTAB 1: VTAB 4
290 PRINT "WANT TO HEAR IT AGAIN (Y/N)?";
300 CALL - 958
310 GET K$
320 IF K$ = "Y" THEN 240
330 IF K$ = "N" THEN 350
340 GOTO 310
350 PRINT : PRINT "WHAT WAS THE CHARACTER?";
360 GET K$
370 PRINT K$: PRINT
380 IF K$ < > C$ THEN 420
390 PRINT "THAT IS CORRECT: "D$
400 GOSUB 530
410 GOTO 430
420 PRINT "THAT IS NOT CORRECT."
430 HTAB 1: VTAB 18
440 PRINT "SELECT ONE:": PRINT
```

```

450 PRINT TAB( 5)"1 - LISTEN TO THE SAME CHARACTER.
460 PRINT TAB( 5)"2 - LISTEN TO A NEW CHARACTER.
470 PRINT TAB( 5)"3 - END THE PROGRAM.
480 GET K$
490 IF K$ = "1" THEN 240
500 IF K$ = "2" THEN 190
510 IF K$ = "3" THEN HOME : END
520 GOTO 480
530 POKE 7,10
540 FOR X = 2 TO LEN (D$)
550 CH$ = MID$ (D$,X,1)
560 IF CH$ = "." THEN POKE 6,50: CALL 768: GOTO 580
570 POKE 6,150: CALL 768
580 NEXT X
590 RETURN
600 DATA A.-,B-...,C-.-.,D-..,E.,F.-.
610 DATA G--.,H.....,I.,J.---,K-.-,L.-..
620 DATA M--,N-.,O---,P.--.,Q---.,R.-.
630 DATA S...,T-,U...-,V...-,W.--,X-.-
640 DATA Y-.-,Z---.,1.----,2.----,3...--.,4....-
650 DATA 5.....,6-.....,7--...,8---...,9-----.,0-----
660 DATA #
670 DATA 164,6,162,8,165,7,32,168,252,173
680 DATA 48,192,202,208,245,136
690 DATA 208,240,96
700 READ D$
710 IF D$ < > "#" THEN 700
720 FOR A = 0 TO 18
730 READ D: POKE 768 + A,D
740 NEXT A
750 RETURN

```

Program 30 MORSE CODE GENERATOR

"Our world would be a different place if all truck drivers had to pass the code test."

—Anonymous amateur radio operator

```
10 REM ** MORSE CODE GENERATOR **
20 REM
30 GOSUB 610
40 FOR N = 1 TO 10:M$ = M$ + CHR$ (32): NEXT N
50 M$ = M$ + "MORSE CODE GENERATOR" + CHR$ (13)
60 FOR N = 1 TO 40:M$ = M$ + " ": NEXT N
70 TEXT : HOME : PRINT M$
80 PRINT "SELECT A TRANSMISSION RATE:"
90 PRINT
100 PRINT TAB( 5)"1 - SLOW
110 PRINT TAB( 5)"2 - MEDIUM
120 PRINT TAB( 5)"3 - FAST
130 PRINT : GET K$
140 IF K$ < "1" OR K$ > "3" THEN 130
150 K = VAL (K$)
160 IF K = 1 THEN POKE 771,8
170 IF K = 2 THEN POKE 771,6
180 IF K = 3 THEN POKE 771,4
190 HOME : PRINT M$
200 PRINT "ENTER A SENTENCE THAT IS TO BE ENCODED"
210 PRINT "(UP TO 200 CHARACTERS). ENCLOSE IN"
220 PRINT "QUOTES IF YOU USE A COMMA OR APOSTROPHE."
230 INPUT " ";PE$
240 L = LEN (PE$)
250 IF L < 1 THEN 230
260 IF L < 201 THEN 290
270 PRINT : PRINT "MESSAGE IS TOO LONG. TRY AGAIN."
280 GOTO 230
290 FOR N = 1 TO LEN (PE$)
300 K$ = MID$ (PE$,N,1)
310 PRINT K$;
320 IF K$ < > CHR$ (32) THEN 340
330 FOR T = 0 TO 100: NEXT T: GOTO 350
340 GOSUB 430
350 NEXT N
360 HTAB 1: VTAB 21
370 PRINT "STRIKE THE SPACE BAR TO ENCODE ANOTHER"
380 PRINT "MESSAGE (OR THE X KEY TO END). ";
390 GET K$
400 IF K$ = CHR$ (32) THEN 70
410 IF K$ = "X" THEN END
420 GOTO 390
430 RESTORE
440 READ D$: IF D$ = "§" THEN RETURN
450 IF K$ < > LEFT$ (D$,1) THEN 440
460 POKE 7,10
470 FOR X = 2 TO LEN (D$)
480 CH$ = MID$ (D$,X,1)
```

```

490 IF CH$ = "." THEN POKE 6,50: CALL 768: GOTO 510
500 POKE 6,150: CALL 768
510 NEXT X
520 RETURN
530 DATA A.-,B-...,C-.-,D-.,E.,F.-.
540 DATA G--.,H.....,I.,J.---,K--.,L.-..
550 DATA M--.,N-.,O---,P.---,Q---.,R.-.
560 DATA S...,T-,U.-.,V....,W.-.,X-.-
570 DATA Y-.,Z-...,1.---,2.---,3.---,4.---
580 DATA 5.....,6-.....,7-...,8---.,9---.,0-----
590 DATA .-.-.-,","---,"?..-.,/-...,-...-
600 DATA #
610 DATA 164,6,162,8,165,7,32,168,252,173
620 DATA 48,192,202,208,245,136
630 DATA 208,240,96
640 READ D$
650 IF D$ < > "#" THEN 640
660 FOR A = 0 TO 18
670 READ D: POKE 768 + A,D
680 NEXT A
690 RETURN

```

Program 31 WORD-FIND PUZZLE GENERATOR

"Failure is sometimes its own reward; such as seeking a needle in a haystack and finding the farmer's daughter."

—Ancient Midwestern Proverb

Word-find puzzles are quite popular these days. Such puzzles show a rectangular array of seemingly random letters of the alphabet. Hidden within that array, however, are some meaningful words. Some are arranged horizontally, and others vertically.

This program gives you the opportunity to specify eight words of up to eight characters apiece. It then arranges them in the "word-find" array for you.

```
10 REM ** WORD-FIND PUZZLE GENERATOR **
20 REM
30 DIM N$(8),M$(8,8),T$(16,16),Y$(16,16)
40 M$ = "WORD-FIND PUZZLE GENERATOR" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + "***": NEXT K
60 TEXT : HOME : PRINT M$
70 FOR C = 1 TO 8: FOR X = 1 TO 8
80 M$(C,X) = CHR$(32)
90 NEXT X: NEXT C
100 PRINT "ENTER 8 WORDS OF 8 CHARACTERS OR LESS:"
110 VTAB 8
120 FOR N = 1 TO 8
130 IF PEEK(37) < = 21 THEN 150
140 HTAB 1: VTAB 8
150 PRINT "WORD #\"N\": ";
160 CALL - 868
170 INPUT " ";W$
180 L = LEN(W$)
190 IF L < 1 THEN 130
200 IF L < = 8 THEN 230
210 PRINT "TOO LONG. TRY AGAIN ..."
220 GOTO 130
230 IF RIGHT$(W$,1) < > CHR$(32) THEN 250
240 L = L - 1:W$ = LEFT$(W$,L): GOTO 230
250 N$(N) = W$
260 NEXT N
270 FOR N = 1 TO 8: FOR X = 1 TO LEN(N$(N))
280 M$(X,N) = MID$(N$(N),X,1)
290 NEXT X,N
300 HOME : PRINT M$: PRINT
310 PRINT : PRINT "GENERATING WORD FIND"
320 FOR R = 1 TO 16: FOR C = 1 TO 16
330 T$(R,C) = CHR$(32)
340 NEXT C: NEXT R
350 W = 0
360 W = W + 1
370 D = INT(RND(1) * 2 + 1)
380 IF D = 2 THEN 510
390 C = INT(RND(1) * 16 + 1)
400 R = INT(RND(1) * 8 + 9)
```

```

410 FOR CK = R - 8 TO R - 1
420 IF T$(CK,C) < > CHR$(32) THEN 370
430 NEXT CK
440 L = 0
450 FOR CK = R - 8 TO R - 1
460 L = L + 1
470 T$(CK,C) = M$(L,W)
480 NEXT CK
490 IF W < 8 THEN 360
500 GOTO 620
510 R = INT ( RND (1) * 16 + 1)
520 C = INT ( RND (1) * 8 + 9)
530 FOR CK = C - 8 TO C - 1
540 IF T$(R,CK) < > CHR$(32) THEN 370
550 NEXT CK
560 L = 0
570 FOR CK = C - 8 TO C - 1
580 L = L + 1
590 T$(R,CK) = M$(L,W)
600 NEXT CK
610 IF W < 8 THEN 360
620 HOME : PRINT M$: PRINT
630 GOSUB 980
640 VTAB 5
650 FOR R = 1 TO 16
660 PRINT
670 HTAB 20
680 FOR C = 1 TO 16
690 Y$(R,C) = T$(R,C)
700 B$ = CHR$( INT ( RND (1) * 26) + 65)
710 IF T$(R,C) = CHR$(32) THEN T$(R,C) = B$
720 PRINT T$(R,C);
730 NEXT C: NEXT R
740 HTAB 1: VTAB 23
750 PRINT "STRIKE ANY KEY TO SEE THE SOLUTION ...";
760 GET K$
770 HOME : PRINT M$: PRINT
780 GOSUB 980
790 VTAB 5
800 FOR R = 1 TO 16
810 PRINT : HTAB 20
820 FOR C = 1 TO 16
830 PRINT Y$(R,C);
840 NEXT C: NEXT R
850 HTAB 1: VTAB 22
860 PRINT "STRIKE ANY KEY TO CONTINUE ...";
870 GET K$
880 HOME : PRINT M$
890 PRINT "SELECT ONE:": PRINT
900 PRINT TAB( 5)"1 - DO A NEW PUZZLE
910 PRINT TAB( 5)"2 - END THE PROGRAM
920 PRINT : PRINT
930 GET K$
940 IF K$ < "1" OR K$ > "2" THEN 930
950 K = VAL (K$)
960 IF K = 1 THEN 60

```



```
970 HOME : END
980 PRINT "WORD LIST"
990 FOR N = 1 TO 9: PRINT "-";: NEXT N
1000 PRINT : PRINT
1010 FOR N = 1 TO 8
1020 PRINT N$(N)
1030 NEXT N
1040 RETURN
```

Program 32 HI/LO GUESSING GAME

"He who plays a game well plays to delight his spirit; but he who wagers a game wagers his own soul."

—Some old-time nurd

No book of BASIC programs can be complete without a version of the ol' high/low guessing game. This one features multiple players, some wagering, and a generous bankroll to get things started in an interesting fashion. Even if you are weary of plain old high/low guessing games, you will find this version adds a bit of spice.

```
10 REM ** BETTING HI/LO GAME **
20 REM
30 FOR N = 1 TO 17: X$ = X$ + CHR$(32): NEXT N
40 FOR N = 1 TO 40: Y$ = Y$ + "$": L$ = L$ + "=": NEXT N
50 M$ = X$ + "HI/LO" + CHR$(13) + Y$
60 TEXT : HOME : PRINT M$
70 PRINT "THIS IS A HI/LO GUESSING GAME FOR 1 TO"
80 PRINT "5 PLAYERS. THE COMPUTER PICKS A NUM-"
90 PRINT "BER BETWEEN 1 AND 100. IT IS THEN UP"
100 PRINT "TO THE PLAYER(S) TO GUESS WHAT IT IS."
110 PRINT : PRINT "A LITTLE SIDE BETTING ADDS SOME SPICE"
120 PRINT "TO THE WHOLE THING."
130 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
140 GET K$
150 HOME : PRINT M$
160 PRINT "HOW MANY PEOPLE ARE PLAYING ";
170 INPUT "(1-5)?": NP%
180 NP = NP%: IF NP > 0 AND NP < = 5 THEN 200
190 GOTO 170
200 PRINT : PRINT
210 FOR N = 1 TO NP
220 HOME : PRINT M$
230 PRINT "PLAYER # "N", ENTER YOUR NAME:"
240 HTAB 5: INPUT X$
250 IF LEN(X$) > 0 AND LEN(X$) < 20 THEN 270
260 PRINT "USE A REAL NAME, PLEASE.": GOTO 240
270 P$(N) = X$: NEXT N
280 FOR N = 1 TO NP: M(N) = 100: NEXT N
290 HOME : PRINT M$
300 PRINT "PLACE YOUR BET:": PRINT
310 P = 0
320 PRINT "PLAYER";: HTAB 21: PRINT "FUNDS";: HTAB 28: PRINT "BET"
330 PRINT L$: PRINT
340 FOR N = 1 TO NP
350 PRINT P$(N);: HTAB 21: PRINT "$"M(N);
360 IF M(N) = 0 THEN B(N) = 0: PRINT : GOTO 420
370 HTAB 28: PRINT "$";
380 INPUT "": B(N)
390 IF B(N) > 0 AND B(N) < = M(N) THEN 410
400 HTAB 18: PRINT "TRY AGAIN:": GOTO 370
410 P = P + B(N)
```

```

420 NEXT N
430 PRINT : PRINT "THE TOTAL POT IS $"P
440 HTAB 1: VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
450 GET K$
460 RG = INT (100 * RND (1)) + 1
470 HOME : PRINT M$
480 PRINT "GUESS A NUMBER BETWEEN 1 AND 100:": PRINT
490 PRINT "PLAYER";: HTAB 21: PRINT "GUESS"
500 LG = 0:HG = 0
510 PRINT L$
520 FOR N = 1 TO NP
530 IF M(N) = 0 THEN G(N) = 0: GOTO 580
540 PRINT P$(N);: HTAB 21
550 INPUT G$:G = G$
560 IF G > 0 AND G < = 100 THEN G(N) = G: GOTO 580
570 HTAB 11: PRINT "TRY AGAIN:": GOTO 550
580 NEXT N
590 FOR N = 1 TO NP
600 IF M(N) = 0 THEN 640
610 IF G(N) < RG THEN LG = LG + 1
620 IF G(N) > RG THEN HG = HG + 1
630 IF G(N) = RG THEN 780
640 NEXT N
650 PRINT
660 IF LG = 1 THEN PRINT "1 PLAYER ";: GOTO 680
670 PRINT LG" PLAYERS ";
680 PRINT "GUESSED TOO LOW."
690 IF HG = 1 THEN PRINT "1 PLAYER ";: GOTO 710
700 PRINT HG" PLAYERS ";
710 PRINT "GUESSED TOO HIGH."
720 VTAB 21: PRINT "STRIKE THE SPACE BAR TO GUESS AGAIN"
730 HTAB 3: PRINT "(OR THE X KEY TO END THE GAME)";
740 GET K$
750 IF K$ = CHR$ (32) THEN 470
760 IF K$ = "X" THEN 960
770 GOTO 740
780 HOME : PRINT M$
790 FOR K = 1 TO 4: CALL - 198: NEXT K
800 INVERSE : PRINT P$(N);: NORMAL
810 PRINT " GUESSED CORRECTLY."
820 PRINT : PRINT "THE NUMBER IS ";RG
830 NB = 0
840 FOR K = 1 TO NP
850 IF K = N THEN M(K) = M(K) + P - B(K): GOTO 880
860 M(K) = M(K) - B(K)
870 IF M(K) < = 0 THEN NB = NB + 1
880 NEXT K
890 IF NB = NP - 1 THEN 960
900 VTAB 21: PRINT "STRIKE THE SPACE BAR FOR THE NEXT ROUND"
910 HTAB 3: PRINT "(OR THE X KEY TO END THE GAME)";
920 GET K$
930 IF K$ = CHR$ (32) THEN 290
940 IF K$ = "X" THEN 960
950 GOTO 920
960 HOME : PRINT M$
970 PRINT "GAME SUMMARY:": PRINT L$

```

```
980  FOR N = 1 TO NP
990  PRINT P$(N);: HTAB 21: PRINT M(N)
1000  NEXT N
1010  VTAB 21: END
```

Program 33 FAIR HI/LO

"What's fair is fair."

—Katharine Hepburn in *The African Queen*

Wagering on the Hi/Lo Guessing Game (Program 32) can be risky business, and it can be downright silly business if you are losing. After all, it's your computer, and no one but you has a right to make a couple of bucks with it.

This version of the ol' HI/LO game gives you a chance to recoup some of your losses. It runs just like the legitimate version, but you can set it up to load the results very heavily in your favor. Here's how it works.

When the program asks you to enter your name, make sure that you sneak a space at the end of your entry. If your first name is Billy, for instance, type your name as BILLY and discretely strike the space bar before striking the return key. From that moment on, the computer knows when it is dealing with you.

Then, when it is your turn to guess the number, enter any number you choose. The "secret" number becomes *your guess plus 10*. So if you guess 50 the first time, the correct answer will be 60—and you can enter that number (and win the round) anytime thereafter. Incidentally, if your first guess is greater than 90, the correct number becomes 90.

Omit the space after your name, and the game runs in a perfectly legitimate fashion.

```
10 REM ** FAIR BETTING HI/LO GAME **
20 REM
30 FOR N = 1 TO 17: X$ = X$ + CHR$ (32): NEXT N
40 FOR N = 1 TO 40: Y$ = Y$ + "$": L$ = L$ + "=": NEXT N
50 M$ = X$ + "HI/LO" + CHR$ (13) + Y$
60 TEXT : HOME : PRINT M$
70 PRINT "THIS IS A HI/LO GUESSING GAME FOR 1 TO"
80 PRINT "5 PLAYERS. THE COMPUTER PICKS A NUM-"
90 PRINT "BER BETWEEN 1 AND 100. IT IS THEN UP"
100 PRINT "TO THE PLAYER(S) TO GUESS WHAT IT IS."
110 PRINT : PRINT "A LITTLE SIDE BETTING ADDS SOME SPICE"
120 PRINT "TO THE WHOLE THING."
130 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
140 GET K$
150 HOME : PRINT M$
160 PRINT "HOW MANY PEOPLE ARE PLAYING ";
170 INPUT "(1-5)?": NP%
180 NP = NP%: IF NP > 0 AND NP < = 5 THEN 200
190 GOTO 170
200 PRINT : PRINT
210 FOR N = 1 TO NP
220 HOME : PRINT M$
230 PRINT "PLAYER #N", ENTER YOUR NAME:"
240 HTAB 5: INPUT X$
250 IF LEN (X$) > 0 AND LEN (X$) < 20 THEN 270
260 PRINT "USE A REAL NAME, PLEASE.": GOTO 240
270 P$(N) = X$: NEXT N
```

```

280 FOR N = 1 TO NP:M(N) = 100: NEXT N
290 HOME : PRINT M$
300 CF = 0
310 PRINT "PLACE YOUR BET:": PRINT
320 P = 0
330 PRINT "PLAYER";: HTAB 21: PRINT "FUNDS";: HTAB 28: PRINT "BET"
340 PRINT L$: PRINT
350 FOR N = 1 TO NP
360 PRINT P$(N);: HTAB 21: PRINT "$"M(N);
370 IF M(N) = 0 THEN B(N) = 0: PRINT : GOTO 430
380 HTAB 28: PRINT "$";
390 INPUT "";B(N)
400 IF B(N) > 0 AND B(N) < = M(N) THEN 420
410 HTAB 18: PRINT "TRY AGAIN:": GOTO 380
420 P = P + B(N)
430 NEXT N
440 PRINT : PRINT "THE TOTAL POT IS $"P
450 HTAB 1: VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
460 GET K$
470 RG = INT (100 * RND (1)) + 1
480 HOME : PRINT M$
490 PRINT "GUESS A NUMBER BETWEEN 1 AND 100:": PRINT
500 PRINT "PLAYER";: HTAB 21: PRINT "GUESS"
510 LG = 0:HG = 0
520 PRINT L$
530 FOR N = 1 TO NP
540 IF M(N) = 0 THEN G(N) = 0: GOTO 620
550 PRINT P$(N);: HTAB 21
560 INPUT G$:G = G%
570 IF G > 0 AND G < = 100 THEN G(N) = G: GOTO 590
580 HTAB 11: PRINT "TRY AGAIN:": GOTO 560
590 IF NOT (CF = 0 AND RIGHT$(P$(N),1) = CHR$(32)) THEN 620
600 IF G(N) + 10 > 100 THEN RG = 90:CF = 1: GOTO 620
610 RG = G(N) + 10:CF = 1
620 NEXT N
630 FOR N = 1 TO NP
640 IF M(N) = 0 THEN 680
650 IF G(N) < RG THEN LG = LG + 1
660 IF G(N) > RG THEN HG = HG + 1
670 IF G(N) = RG THEN 820
680 NEXT N
690 PRINT
700 IF LG = 1 THEN PRINT "1 PLAYER ";: GOTO 720
710 PRINT LG" PLAYERS ";
720 PRINT "GUESSED TOO LOW."
730 IF HG = 1 THEN PRINT "1 PLAYER ";: GOTO 750
740 PRINT HG" PLAYERS ";
750 PRINT "GUESSED TOO HIGH."
760 VTAB 21: PRINT "STRIKE THE SPACE BAR TO GUESS AGAIN"
770 HTAB 3: PRINT "(OR THE X KEY TO END THE GAME)".
780 GET K$
790 IF K$ = CHR$(32) THEN 480
800 IF K$ = "X" THEN 1000
810 GOTO 780
820 HOME : PRINT M$
830 FOR K = 1 TO 4: CALL - 198: NEXT K

```

```

840 INVERSE : PRINT P$(N);: NORMAL
850 PRINT " GUESSED CORRECTLY."
860 PRINT : PRINT "THE NUMBER IS ";RG
870 NB = 0
880 FOR K = 1 TO NP
890 IF K = N THEN M(K) = M(K) + P - B(K): GOTO 920
900 M(K) = M(K) - B(K)
910 IF M(K) < = 0 THEN NB = NB + 1
920 NEXT K
930 IF NB = NP - 1 THEN 1000
940 VTAB 21: PRINT "STRIKE THE SPACE BAR FOR THE NEXT ROUND"
950 HTAB 3: PRINT "(OR THE X KEY TO END THE GAME)";
960 GET K$
970 IF K$ = CHR$(32) THEN 290
980 IF K$ = "X" THEN 1000
990 GOTO 960
1000 HOME : PRINT M$
1010 PRINT "GAME SUMMARY:": PRINT L$
1020 FOR N = 1 TO NP
1030 PRINT P$(N);: HTAB 21: PRINT M(N)
1040 NEXT N
1050 VTAB 21: END

```

Program 34 COMBINATION LOCK

"If it is true that the last bolt is always the one that sticks, it is equally true that the last key is the one that opens the lock."

—Overheard in a hardware store in Hong Kong

If you are no good at this game, you will most likely give up with no harm done. If you are fairly good, it will drive you nuts. If you are exceedingly good, you will never win. In any event, it's worth a try.

```
10 REM ** COMBINATION LOCK GAME **
20 REM
30 TEXT :L = 2
40 M$ = "COMBINATION LOCK CHALLENGE"
50 HOME : PRINT TAB( 7)M$: PRINT : GOSUB 420
60 VTAB (10): PRINT "STRIKE ANY KEY TO BEGIN ...";
70 GET K$
80 HOME : PRINT M$: PRINT "FOR LOCKSMITH LEVEL "L: PRINT : GOSUB 420
90 S = 0
100 PRINT "ENTER COMBINATIONS OF "L" DIGITS
110 PRINT TAB( 5)"(OR X TO ABORT THE ATTEMPT)": PRINT
120 FOR N = 1 TO L:A(N) = INT (10 * RND (1)): NEXT N
130 PRINT "?";
140 FOR N = 1 TO L
150 GET K$
160 IF NOT (K$ = "X") THEN 190
170 IF L > 1 THEN L = L - 1:AF = 2: GOTO 350
180 AF = 0: GOTO 340
190 IF ASC (K$) < 48 OR ASC (K$) > 57 THEN 150
200 PRINT VAL (K$);:G(N) = VAL (K$)
210 FOR X = 1 TO L: IF VAL (K$) = A(X) THEN CALL - 198
220 NEXT X,N
230 PRINT :S = S + 1
240 FOR N = 1 TO L
250 IF A (N) <> G (N) THEN 130
260 NEXT N
270 PRINT : PRINT "THAT IS THE COMBINATION!!"
280 FOR N = 1 TO 5: CALL - 198. FOR T = 1 TO 200: NEXT T,N
290 PRINT "YOU GOT IT IN "S" ATTEMPT";: IF S < > 1 THEN PRINT "S";
300 PRINT : PRINT : PRINT
310 IF S < = L ^ 2 THEN L = L + 1:AF = 1: GOTO 330
320 AF = 0
330 IF AF = 1 THEN PRINT "YOU HAVE ADVANCED TO";
340 IF AF = 0 THEN PRINT "YOU RETAIN";
350 IF AF = 2 THEN PRINT : PRINT "YOU HAVE BEEN DEMOTED TO";
360 PRINT " LOCKSMITH LEVEL "L
370 PRINT "DO YOU WANT TO CONTINUE (Y/N)?"
380 GET K$
390 IF K$ = "Y" THEN 80
400 IF K$ = "N" THEN HOME : END
410 GOTO 380
420 FOR N = 1 TO 40: PRINT "=";: NEXT N
430 PRINT : RETURN
```


Program 35 9-CELL MAGIC SQUARE GENERATOR

“The advancement and perfection of mathematics are intimately connected with the prosperity of the State.”

—Napoleon I

A 9-cell magic square is a 3×3 arrangement of numbers that add up to the same value, when regarded horizontally, vertically and diagonally as shown below.

X	X	X

X	X	X

X	X	X

X		
X		
X		

	X	
	X	
	X	

		X
		X
		X

X		
	X	
		X

		X
	X	
X		

```

10 REM 9-CELL MAGIC SQUARE
20 REM
30 FOR N = 0 TO 39: X$ = X$ + " ": NEXT N
40 FOR N = 0 TO 9: Y$ = Y$ + CHR$ (32): NEXT N
50 M$ = Y$ + "9-CELL MAGIC SQUARE" + CHR$ (13) + X$
60 FOR ROW = 1 TO 3: FOR COL = 1 TO 3
70 READ L(ROW,COL)
80 NEXT COL: NEXT ROW
90 S = INT (99 * RND (1)) + 15: IF (S / 3) < > INT (S / 3) THEN 90
100 TEXT : HOME : PRINT M$
110 N = (S - 15) / 3
120 PRINT "THE MAGIC SUM FOR THIS SQUARE IS "S"."
130 INVERSE
140 FOR ROW = 1 TO 3: FOR COL = 1 TO 3
150 VTAB ROW * 3 + 7
160 HTAB 4 * COL + 10
170 PRINT L(ROW,COL) + N
180 NEXT COL: PRINT : PRINT : NEXT ROW
190 NORMAL
200 VTAB 20: PRINT "STRIKE THE SPACE BAR TO SEE ANOTHER"
210 PRINT "MAGIC SQUARE (OR STRIKE THE X KEY TO"
220 PRINT "END THIS PROGRAM) ...";
230 GET K$: X = RND (1)
240 IF K$ = "X" THEN HOME : END
250 IF ASC (K$) = 32 THEN 90
260 GOTO 230
270 DATA 8,1,6,3,5,7,4,9,2

```

Program 36 16-CELL MAGIC SQUARE

"Mathematics is the queen of sciences and number theory the queen of mathematics."

—Karl F. Gauss

A 16-cell magic square is not only larger than its 9-cell counterpart (Program 35), but its sums can be derived in a greater number of ways as shown below.

X	X	X	X

X	X	X	X

X	X	X	X

X	X	X	X

X			
X			
X			
X			

	X		
	X		
	X		
	X		

		X	
		X	
		X	
		X	

			X
			X
			X
			X

X			
	X		
		X	
			X

			X
		X	
	X		
X			

X			X
X			X

	X	X	
	X	X	

	X	X	
	X	X	

X			X
X			X

		X	
			X
X			
	X		

	X		
X			
			X
		X	

```

10 REM ** 16-CELL MAGIC SQUARES **
20 REM
30 FOR N = 0 TO 9: X$ = X$ + CHR$ (32): NEXT N
40 FOR N = 0 TO 39: Y$ = Y$ + " ": NEXT N
50 M$ = X$ + "16-CELL MAGIC SQUARES" + CHR$ (13) + Y$
60 FOR ROW = 1 TO 4: FOR COL = 1 TO 4
70 READ L(1,ROW,COL)
80 NEXT COL: NEXT ROW
90 TEXT : HOME : PRINT M$
100 PRINT "ENTER A MAGIC SQUARE SUM OF YOUR CHOICE"
110 PRINT "(ANY WHOLE NUMBER BETWEEN 34 AND 1000):"
120 PRINT : INPUT S
130 IF S > = 34 AND S < = 1000 THEN 160
140 PRINT : PRINT "YOUR SELECTION IS OUT OF RANGE."
150 PRINT "PLEASE TRY AGAIN ...": GOTO 120
160 HOME : PRINT M$: PRINT
170 PRINT "YOU SELECTED A SUM OF "S" FOR YOUR"
180 PRINT "MAGIC SQUARE. THE SQUARE LOOKS LIKE"
190 PRINT "THIS:"
200 PRINT : PRINT : PRINT
210 NR = (S - 30) / 4: N = INT (NR): R = (NR - N) * 4
220 FOR ROW = 1 TO 4: FOR COL = 1 TO 4
230 IF L(1,ROW,COL) > = 13 THEN 250
240 PRINT TAB( 4 * COL + 7); L(1,ROW,COL) + N - 1; GOTO 260
250 PRINT TAB( 4 * COL + 7); L(1,ROW,COL) + N + R - 1;
260 NEXT COL: PRINT : PRINT : NEXT ROW
270 PRINT : PRINT
280 PRINT "STRIKE THE SPACE BAR FOR ANOTHER SQUARE"
290 PRINT "OR STRIKE THE X KEY TO END THE PROGRAM.";
300 GET K$
310 IF ASC (K$) = 32 THEN 90
320 IF K$ = "X" THEN HOME : END
330 GOTO 300
340 DATA 8,11,14,1,13,2,7,12,3,16,9,6,10,5,4,15

```

Program 37 NUMBER-SEQUENCE TEST

"Geez, I hate these kinds of problems!"

—Overheard during an S.A.T. examination

```
10 REM ** NUMBER-SEQUENCE TEST **
20 REM
30 FOR K = 1 TO 10:M$ = CHR$ (32): NEXT K
40 M$ = M$ + "NUMBER-SEQUENCE TEST" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "**": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "THE COMPUTER IS ABOUT TO DISPLAY A LIST"
80 PRINT "OF NUMBERS. YOUR TASK IS TO DETERMINE"
90 PRINT "THE NEXT NUMBER IN THE SEQUENCE."
100 VTAB 21: PRINT "STRIKE ANY KEY TO SEE THE LIST ...";
110 GET A$
120 HOME : PRINT M$
130 PRINT "HERE IS A SEQUENCE OF NUMBERS:": PRINT
140 M = INT (5 * RND (1)) + 1
150 A = INT (10 * RND (1)) - 5
160 S = INT (10 * RND (1)) + 1
170 FOR K = 1 TO 4
180 S(K) = S
190 PRINT S",";
200 IF K = 4 THEN PRINT "... "
210 S = S * M + A
220 NEXT K
230 VTAB 16: PRINT "WHAT IS THE NEXT NUMBER? ";
240 INPUT " ";N
250 HOME : PRINT M$
260 PRINT "YOU SELECTED:"
270 PRINT : PRINT TAB( 5)N
280 PRINT
290 PRINT "THE CORRECT SEQUENCE IS:"
300 PRINT : PRINT TAB( 5);
310 FOR K = 1 TO 4: PRINT S(K)", ";
320 NEXT K
330 FLASH : PRINT S: NORMAL
340 PRINT : PRINT
350 IF N = S THEN PRINT "YOU ARE CORRECT.": GOTO 370
360 PRINT "SORRY ABOUT THAT."
370 VTAB 21: PRINT "STRIKE THE SPACE BAR TO TRY AGAIN"
380 PRINT "(OR THE X KEY TO END THE PROGRAM) ...";
390 GET K$
400 IF K$ = CHR$ (32) THEN 120
410 IF K$ = "X" THEN HOME : END
420 GOTO 390
```

Program 38 IMPROVED CASH FLOW

"A penny under the table is worth ten in the bank."

—Final entry in the diary of an anonymous income-tax evader

If you share your checking account with another person, there are times when it can be rather troublesome to have that individual spend too much for you. This account-balancing program can be exceedingly helpful in that regard.

Enter the account history as requested by the program. Striking the space bar to review the account, however, shows a bunch of phony figures that makes it appear that you have far less money than you do. That is the version you should show your checkbook partner. But when you want to review the truth of the matter, substitute the RETURN key for the space bar.

```
10 REM ** CASH-FLOW MINDER **
20 REM
30 FOR N = 1 TO 12:M$ = M$ + CHR$(32): NEXT N
40 M$ = M$ + "CASH-FLOW MINDER" + CHR$(13)
50 FOR N = 1 TO 40:M$ = M$ + "$": NEXT N
60 TEXT : HOME : PRINT M$
70 PRINT "KEEPING RECORDS OF CASH FLOW IS A VITAL"
80 PRINT "PART OF MODERN BUSINESS. SOME TECH-"
90 PRINT "NIQUES, HOWEVER, ARE BETTER THAN OTHERS"
100 PRINT "(AS ILLUSTRATED BY THIS PROGRAM)."
```

110 PRINT : PRINT

120 FLASH : PRINT "NOTICE:": NORMAL

130 PRINT : PRINT TAB(5)"THE AUTHORS OF THIS PROGRAM"

140 PRINT TAB(5)"WILL NOT ACCOMPANY YOU TO"

150 PRINT TAB(5)"AN IRS AUDIT."

160 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";

170 GET K\$

180 HOME : PRINT M\$

190 PRINT "ENTER YOUR CURRENT ACCOUNT BALANCE:"

200 PRINT

210 PRINT TAB(5);

220 INPUT "\$";A

230 X = INT (10 * A) / 100

240 HOME : PRINT M\$

250 N = 0

260 PRINT "ENTER UP TO 10 DEPOSITS TO THAT"

270 PRINT "ACCOUNT. ENTER 0 TO END THE LIST"

280 PRINT "AT ANY TIME."

290 GOSUB 840

300 NB = N

310 FOR N = 1 TO NB

320 B(N) = F(N):Y(N) = INT (10 * F(N)) / 100

330 NEXT N

340 HOME : PRINT M\$

350 PRINT "ENTER UP TO 10 DEBITS TO THAT ACCOUNT."

360 PRINT "ENTER 0 TO END THE LIST AT ANY TIME."

370 GOSUB 840

```

380 NC = N
390 FOR N = 1 TO NC
400 C(N) = F(N):Z(N) = INT (100 * F(N)) / 10
410 NEXT N
420 HOME : PRINT M$
430 PRINT
440 PRINT "DEPOSIT SUMMARY:": PRINT
450 BS = 0
460 FOR N = 1 TO NB
470 PRINT "$";
480 IF PH = 0 THEN 510
490 PRINT B(N)
500 BS = BS + B(N): GOTO 530
510 PRINT Y(N)
520 BS = BS + Y(N)
530 NEXT N
540 HTAB 20: VTAB 5
550 PRINT "DEBIT SUMMARY:": PRINT
560 CS = 0
570 FOR N = 1 TO NB
580 HTAB 20: PRINT "$";
590 IF PH = 0 THEN 620
600 PRINT C(N)
610 CS = CS + C(N): GOTO 640
620 PRINT Z(N)
630 CS = CS + Z(N)
640 NEXT N
650 VTAB 21: PRINT "STRIKE ANY KEY TO SEE TOTALS ...";
660 GET K$
670 HOME : PRINT M$
680 PRINT "STARTING BALANCE: $";
690 IF PH = 0 THEN PRINT X: GOTO 710
700 PRINT A
710 PRINT "TOTAL DEPOSITS: $"BS
720 PRINT "TOTAL DEBITS: $"CS
730 PRINT : PRINT "CURRENT BALANCE: $";
740 IF PH = 0 THEN 760
750 PRINT A + BS - CS: GOTO 770
760 PRINT X + BS - CS
770 VTAB 21: PRINT "STRIKE THE SPACE BAR TO SEE AGAIN"
780 PRINT "(OR THE X KEY TO END) ...";
790 GET K$
800 IF K$ = CHR$ (32) THEN PH = 0: GOTO 420
810 IF K$ = CHR$ (13) THEN PH = 1: GOTO 420
820 IF K$ = "X" THEN HOME : END
830 GOTO 790
840 N = 1
850 PRINT
860 PRINT TAB( 5);
870 INPUT "$";F(N)
880 IF F(N) = 0 THEN 920
890 N = N + 1
900 IF N > 10 THEN 920
910 GOTO 860
920 N = N - 1: RETURN

```

Program 39 COUNT THE STARS

Count the stars in the cold, dark sky,
Count the cheese balls in frosty moon's eye.
Make a wish and turn 'round twice,
Get yourself dizzy and fall on the ice.

—Medieval Hebrew Proverb

```
10 REM ** COUNT THE STARS **
20 REM
30 M$ = "COUNT THE STARS" + CHR$ (13)
40 FOR K = 1 TO 40:M$ = M$ + "-": NEXT K
50 TEXT : HOME : PRINT M$
60 X = INT (250 * RND (1)) + 100
70 FOR N = 1 TO X
80 COL = INT (40 * RND (1)) + 1
90 ROW = INT (18 * RND (1)) + 3
100 IF SCRN( COL,ROW) = ASC ("**") THEN 80
110 HTAB COL: VTAB ROW: PRINT "**"
120 NEXT N
130 INVERSE
140 FOR H = 9 TO 0 STEP - 1
150 HTAB 1: VTAB 22
160 PRINT "SECONDS 'TIL DAWN: "H
170 FOR T = 1 TO 500: NEXT T
180 NEXT H
190 NORMAL : HOME : PRINT M$
200 PRINT "HOW MANY STARS WERE IN THE SKY";
210 INPUT NS
220 PRINT : PRINT "THERE WERE "X" STARS IN THE SKY."
230 PRINT
240 G = ABS (NS - X)
250 IF G < 100 THEN 290
260 PRINT "MAYBE YOU OUGHT TO SPEND YOUR EVENINGS"
270 PRINT "DOING SOMETHING MORE CONSTRUCTIVE."
280 GOTO 380
290 IF G < 50 THEN 320
300 PRINT "THAT'S NOT SO GOOD; BUT YOU COULD DO"
310 PRINT "WORSE.": GOTO 380
320 IF G < 10 THEN 340
330 PRINT "NOT A BAD GUESS.": GOTO 380
340 IF G = 0 THEN 370
350 PRINT "CLOSE ... BUT NO CIGAR."
360 GOTO 380
370 PRINT "HOW IN THE WORLD DID YOU DO THAT??"
380 HTAB 1: VTAB 21
390 PRINT "STRIKE THE SPACE BAR TO TRY AGAIN (OR"
400 PRINT "THE X KEY TO END THE PROGRAM) ...";
410 GET K$
420 IF K$ = CHR$ (32) THEN 50
430 IF K$ = "X" THEN HOME : END
440 GOTO 410
```


Program 40 SIMPLE DICE ROLL

"Maybe the best way to throw dice is into the river."

—Overheard one morning on a river boat near Memphis

```
10 REM    ** SIMPLE DICE ROLL **
20 REM
30 FOR N = 0 TO 14: X$ = X$ + CHR$(32): NEXT N
40 FOR N = 0 TO 39: Y$ = Y$ + " ": NEXT N
50 M$ = X$ + "DICE GAME" + CHR$(13) + Y$
60 TEXT : HOME : PRINT M$: PRINT
70 PRINT "HOW MANY DICE DO YOU WANT TO ROLL?"
80 PRINT : INPUT "(1 THRU 6) ..."; ND
90 ND = INT (ND): IF ND > 0 AND ND < 7 THEN 120
100 PRINT : PRINT "INVALID NUMBER OF DICE."
110 PRINT "TRY AGAIN ...": GOTO 80
120 VTAB 20: PRINT "STRIKE ANY KEY TO BEGIN ...";
130 GET K$: X = RND (1): IF K$ = "=" THEN 130
140 HOME : PRINT M$
150 DT = 0
160 FOR N = 1 TO ND
170 D(N) = INT (6 * RND (1) + 1)
180 PRINT : PRINT "DIE "N": "D(N)
190 DT = DT + D(N)
200 NEXT N
210 IF ND = 1 THEN 230
220 PRINT : PRINT : PRINT "TOTAL: "DT
230 VTAB 20: PRINT "STRIKE THE SPACE BAR TO ROLL AGAIN"
240 PRINT "(OR STRIKE THE X KEY TO END THE PROGRAM)"
250 GET K$: X = RND (1): IF K$ = "X" THEN 270
260 GOTO 140
270 HOME : END
```

Program 41 BANKROLL DICE

"The urge to gamble is so universal and its practice so pleasurable that I assume it must be evil."

—Heywood Brown

This program can help you pay for your computer or, alternatively, win you a free ride to a dark place in the countryside.

```
10 REM ** BANKROLL DICE GAME **
20 REM
30 M$ = "BANKROLL DICE (CREDIT LIMIT OF $25000)" + CHR$ (13)
40 FOR N = 1 TO 40:M$ = M$ + "$": NEXT N
50 TEXT : HOME : PRINT M$
60 PRINT "HERE IS YOUR GOLDEN OPPORTUNITY TO ROLL"
70 PRINT "A DIE, BETTING AGAINST THIS COMPUTER."
80 PRINT "(WHAT DO COMPUTERS KNOW ABOUT DICE,"
90 PRINT "ANYHOW?)"
100 PRINT : PRINT "YOU NOW HAVE A TOKEN CREDIT OF $1000,"
110 PRINT "BUT YOUR CREDIT IS GOOD UP TO THE HOUSE"
120 PRINT "LIMIT OF $25,000."
130 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN GETTING RICH ...";
140 GET K$
150 PM = 1000
160 HOME : PRINT M$
170 IF PM < 0 THEN 190
180 PRINT "YOU NOW HAVE $"PM: GOTO 200
190 PRINT "YOU ARE NOW IN THE HOLE BY $" ABS (PM)
200 PRINT : PRINT "CALL YOUR NUMBER (1-6) ";
210 GET K$
220 IF K$ < "1" OR K$ > "6" THEN 210
230 PN = VAL (K$)
240 PRINT PN
250 PRINT : PRINT "PLACE YOUR BET: ";
260 INPUT "$";PB
270 PB = INT (PB)
280 IF PB + PM < = 25000 THEN 300
290 PRINT "HOUSE LIMIT IS $25000. TRY AGAIN ..."; GOTO 260
300 IF PB > 0 THEN 320
310 PRINT "YOU HAVE TO BET SOMETHING! TRY AGAIN ";: GOTO 260
320 CN = INT (6 * RND (1)) + 1
330 IF CN = PN THEN 320
340 PRINT : PRINT "THE HOUSE CALLS "CN
350 VTAB 21: PRINT "STRIKE ANY KEY TO ROLL THE DIE ..";
360 GET K$
370 FOR K = 1 TO 50
380 FOR T = 1 TO INT ( RND (1) * 50 + 10)
390 NEXT T
400 CK = PEEK ( - 16336)
410 NEXT K
420 FOR K = 1 TO 3: CALL ( - 198): NEXT K
430 FG = 0
```

```

440 IF INT (8 * RND (1)) = 0 THEN FG = 1
450 IF FG = 1 THEN 500
460 DN = INT (6 * RND (1)) + 1
470 IF DN = PN THEN 460
480 IF ABS (DN - CN) > = ABS (DN - PN) THEN 460
490 GOTO 510
500 DN = INT (6 * RND (1)) + 1
510 HOME : PRINT M$
520 PRINT "THE DIE SHOWS "DN
530 PRINT "YOU PICKED "PN
540 PRINT "THE HOUSE PICKED "CN
550 IF ABS (DN - CN) < ABS (DN - PN) THEN 590
560 INVERSE : PRINT "YOU WIN": NORMAL
570 PM = PM + 2 * PB
580 GOTO 620
590 INVERSE : PRINT "HOUSE WINS": NORMAL
600 PM = PM - PB
610 IF PM < - 25000 THEN 710
620 IF PM > = 0 THEN 680
630 VTAB 21: PRINT "DO YOU WANT TO PLAY AGAIN (Y/N)? ";
640 GET K$
650 IF K$ = "Y" THEN 160
660 IF K$ = "N" THEN 770
670 GOTO 640
680 VTAB 21: PRINT "STRIKE ANY KEY TO PLAY AGAIN ...";
690 GET K$
700 GOTO 160
710 HOME : PRINT M$
720 PRINT "SORRY, YOUR DEBT IS ON THE ORDER OF"
730 PRINT "$25000."
740 PRINT : PRINT "WE REGRET THAT WE CANNOT EXTEND FURTHER"
750 PRINT "CREDIT AT THIS TIME."
760 GOTO 810
770 HOME : PRINT M$
780 PRINT "YOU HAVE A CURRENT DEBT IN THE AMOUNT"
790 PRINT "SHOWN BELOW:": PRINT
800 PRINT : PRINT "$" ABS (PM)
810 VTAB 19: PRINT "STRIKE ANY KEY TO SEE OPTIONS AVAILABLE"
820 PRINT "FOR RESOLVING THIS MATTER ...";
830 GET K$
840 HOME : PRINT M$
850 PRINT "WE CANNOT ACCEPT A CHECK OR I.O.U.": PRINT
860 PRINT "WE CAN ACCEPT ONE, OR A COMBINATION,"
870 PRINT "OF THE FOLLOWING ITEMS:": PRINT
880 PRINT TAB( 5)"<A> CASH"
890 PRINT TAB( 5)"<B> VISA
900 PRINT TAB( 5)"<C> MASTERCHARGE
910 PRINT TAB( 5)"<D> AMERICAN EXPRESS
920 PRINT : PRINT
930 PRINT "NOTE: CASH IS PAID OR CREDIT CARDS ARE"
940 PRINT "SIGNED OVER TO THE OWNER OF THIS COM-"
950 PRINT "PUTER."

```

Program 42 CARDS AT WAR

"Cards were at first for benefits designed, sent to amuse, not to enslave the mind."

—Garrick

```
10 REM ** CARDS AT WAR **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "CARDS AT WAR" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "DO YOU WANT TO SEE THE INSTRUCTIONS?"
80 PRINT "(Y/N)";
90 GET K$
100 IF K$ = "Y" THEN 130
110 IF K$ = "N" THEN 330
120 GOTO 90
130 HOME : PRINT M$: SPEED= 100
140 PRINT "YOU AND YOUR COMPUTER ARE ABOUT TO PLAY"
150 PRINT "A VARIATION OF A POPULAR CARD GAME"
160 PRINT "CALLED 'WAR.'"
170 PRINT : PRINT "YOU AND THE COMPUTER BOTH BEGIN WITH"
180 PRINT "HANDS OF 26 CARDS. YOU BOTH PICK A"
190 PRINT "NUMBER BETWEEN 1 AND 5; AND IF THE"
200 PRINT "NUMBERS DO NOT MATCH, YOU BOTH PLACE"
210 PRINT "ONE CARD INTO THE POT. BUT IF THE"
220 PRINT "NUMBERS MATCH, YOU GO TO 'WAR.'"
230 PRINT : PRINT "GOING TO 'WAR' MEANS THAT YOU PICK A"
240 PRINT "NUMBER, 1 OR 2. IF YOU SELECT THE RIGHT"
250 PRINT "NUMBER, YOU GET THE CARDS FROM THE POT."
260 PRINT "OTHERWISE, THE COMPUTER GETS THEM."
270 PRINT
280 PRINT "THE FIRST TO GET ALL 52 CARDS WINS"
290 PRINT "THE GAME."
300 SPEED= 255
310 PRINT : PRINT "STRIKE THE SPACE BAR TO BEGIN ...";
320 GET K$
330 HOME : PRINT M$: PRINT
340 TP = 26:TC = 26
350 COUNT = 0
360 CC = INT ( RND (1) * 5 + 1)
370 IF COUNT = 1 THEN 400
380 PRINT "THERE ARE NOW "COUNT" CARDS IN THE STACK."
390 GOTO 410
400 PRINT "THERE IS 1 CARD IN THE STACK."
410 COUNT = COUNT + 1
420 IF COUNT + TP < 52 AND COUNT + TC < 52 THEN 440
430 GOTO 510
440 PRINT : PRINT "PICK A NUMBER (1-5): ";
450 GET K$
460 IF K$ < "1" OR K$ > "5" THEN 450
470 NB = VAL (K$)
480 PRINT NB
```

```

490 PRINT : PRINT "THE COMPUTER PICKS: "CC
500 IF NB < > CC THEN 770
510 CALL ( - 198): CALL ( - 198): CALL ( - 198)
520 PRINT : PRINT
530 FLASH : PRINT " THIS IS A WAR ": NORMAL
540 PRINT : PRINT "PICK A NUMBER (1 OR 2) ";
550 GET K$
560 IF K$ < "1" OR K$ > "2" THEN 550
570 N = VAL (K$)
580 WC = INT ( RND (1) * 2 + 1)
590 HOME : PRINT M$
600 IF WC < > N THEN 670
610 HOME : PRINT M$
620 PRINT : PRINT "*** YOU WON THE CARDS ***"
630 PRINT
640 TP = TP + COUNT:TC = TC - COUNT
650 PRINT "YOU WON "COUNT" CARDS FOR A TOTAL OF "TP"."
660 COUNT = 0: GOTO 710
670 PRINT : PRINT "*** THE COMPUTER GETS THE CARDS ***"
680 TC = TC + COUNT:TP = TP - COUNT
690 PRINT "IT WON "COUNT" CARDS FOR A TOTAL OF "TC" CARDS."
700 COUNT = 0
710 VTAB 21: PRINT "STRIKE THE SPACE BAR TO CONTINUE"
720 PRINT "(OR THE X KEY TO QUIT THE GAME) ...";
730 GET K$
740 IF K$ = CHR$ (32) THEN 780
750 IF K$ = "X" THEN HOME : END
760 GOTO 730
770 FOR T = 1 TO 1500: NEXT T
780 HOME : PRINT M$
790 IF TP > 52 THEN 820
800 IF TC > 52 THEN 870
810 GOTO 360
820 FOR K = 1 TO 5: CALL ( - 198): NEXT K
830 PRINT "YOU HAVE WON THE GAME"
840 PRINT : PRINT "WOULD YOU LIKE TO PLAY AGAIN (Y OR N)"
850 GET K$: IF K$ = "Y" THEN 330
860 END
870 FOR K = 1 TO 5: CALL ( - 198): NEXT K
880 PRINT : PRINT "THE COMPUTER WON THE GAME"
890 GOTO 840

```

Program 43 FLASH CARDS

"Think fast!"

—Twentieth-Century American figure of speech

```
10 REM ** COMPUTER FLASH CARDS **
20 REM
30 FOR N = 1 TO 10:M$ = CHR$(32): NEXT N
40 M$ = M$ + "RED-HOT FLASH CARDS" + CHR$(13)
50 FOR N = 1 TO 40:M$ = M$ + "=": NEXT N
60 TEXT : HOME : PRINT M$
70 SPEED= 100
80 PRINT "THE DAWN OF THE COMPUTER AGE SHEDS NEW"
90 PRINT "LIGHT ON THE NEED FOR PEOPLE TO THINK"
100 PRINT "AND REACT FASTER THAN EVER BEFORE. THIS"
110 PRINT "NEED EXTENDS TO SOME OLDER EDUCATIONAL"
120 PRINT "TECHNIQUES."
130 PRINT : PRINT "HERE IS AN EXAMPLE -- ";
140 FLASH : PRINT "FLASH CARDS";: NORMAL
150 HTAB 1: SPEED= 255
160 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
170 GET K$
180 HOME : PRINT M$
190 HTAB 1: VTAB 10
200 FLASH : PRINT "ANSWER:" SPC( 2): NORMAL
210 INVERSE
220 FOR N = 1 TO 50
230 F = INT (4 * RND (1)) + 1
240 A = INT (11 * RND (1))
250 B = INT (11 * RND (1))
260 IF F < 4 THEN 290
270 IF B = 0 AND F = 4 THEN 250
280 IF A / B < > INT (A / B) THEN 250
290 HTAB 1: VTAB 8
300 CALL - 198
310 ON F GOSUB 490,510,530,550
320 FOR T = 0 TO 100: NEXT T
330 PRINT "?" SPC( 2)
340 HTAB 20: VTAB 18
350 PRINT "CARD NO. "N
360 NEXT N
370 NORMAL
380 HOME : PRINT M$
390 PRINT "YOU GOT "U" CORRECT OUT OF "N - 1"."
400 PRINT
410 FOR N = 1 TO 10
420 READ D: PRINT CHR$( D);
430 NEXT N
440 PRINT : PRINT
450 FOR N = 1 TO 4
460 READ D$: PRINT TAB( 5)D$" GRADE"
470 NEXT N
480 END
```

```
490 PRINT A" + "B" =" SPC( 2)
500 C = A + B: RETURN
510 PRINT A" - "B" =" SPC( 2)
520 C = A - B: RETURN
530 PRINT A" X "B" =" SPC( 2)
540 C = A * B: RETURN
550 PRINT A" / "B" =" SPC( 2)
560 C = A / B: RETURN
570 FOR T = 1 TO 500: NEXT
580 DATA 89,79,85,32,70,76,85,78,75,58
590 DATA FIRST,SECOND,THIRD,FOURTH
```

Program 44 BLACKJACK

"I must complain the cards are ill shuffled till I have a good hand."

—Swift

```
10 REM ** BLACKJACK **
20 REM
30 FOR N = 1 TO 14:M$ = CHR$ (32): NEXT N
40 M$ = M$ + "BLACKJACK" + CHR$ (13)
50 FOR N = 1 TO 39:B$ = B$ + "=": NEXT N
60 M$ = M$ + B$
70 TEXT : HOME : PRINT M$
80 PRINT "THIS GAME IS AN APPROXIMATION OF THE"
90 PRINT "POPULAR CARD GAME KNOWN AS 'BLACKJACK.'"
100 PRINT : PRINT "YOU AND THE DEALER (THE COMPUTER) DRAW"
110 PRINT "CARDS IN AN ATTEMPT TO COMPILE A SUM"
120 PRINT "THAT APPROACHES, BUT DOES NOT EXCEED,"
130 PRINT "21. (EXCEEDING 21 IS A 'BUST' -- YOU"
140 PRINT "AUTOMATICALLY LOSE THE ROUND.)"
150 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 HOME : PRINT M$
180 DT = 0
190 FOR N = 1 TO INT (2 * RND (1)) + 3
200 D(N) = INT (12 * RND (1)) + 2
210 DT = DT + D(N)
220 NEXT N
230 DN = N - 1
240 HTAB 1: VTAB 4
250 PRINT "THE DEALER HAS "DN" CARDS, AND THE"
260 PRINT "TOP CARD IS "D(1)".
270 PRINT B$
280 FOR N = 1 TO 2
290 P(N) = INT (12 * RND (1)) + 2
300 NEXT N
310 PN = N - 1
320 PT = 0
330 HTAB 1: VTAB 8
340 PRINT "YOUR CURRENT HAND LOOKS LIKE THIS:"
350 HTAB 1: VTAB 10
360 FOR N = 1 TO PN
370 PRINT P(N); SPC( 2)
380 PT = PT + P(N)
390 NEXT N
400 IF PT > 21 THEN 560
410 HTAB 1: VTAB 12: CALL - 868
420 PRINT "WANT ANOTHER CARD (Y/N)? ";
430 GET K$
440 IF K$ < > "Y" THEN 470
450 PN = PN + 1:P(PN) = INT (12 * RND (1)) + 2
460 GOTO 320
470 IF K$ < > "N" THEN 430
480 HTAB 1: VTAB 14: PRINT B$
```



```

490 HTAB 1: VTAB 16
500 PRINT "YOU HAVE "PT"."
510 PRINT "DEALER HAS "DT"."
520 IF DT > 21 THEN 610
530 IF DT = PT THEN 640
540 IF ABS (21 - DT) < ABS (21 - PT) THEN 640
550 GOTO 610
560 HTAB 1: VTAB 12: CALL - 868
570 HTAB 14
580 FLASH : PRINT "*** BUSTED ***"
590 FOR N = 1 TO 4: CALL - 198: NEXT N
600 NORMAL : GOTO 640
610 HTAB 14: VTAB 19
620 INVERSE : PRINT "*** YOU WIN ***"
630 NORMAL : GOTO 670
640 HTAB 11: VTAB 19
650 INVERSE : PRINT "*** DEALER WINS ***"
660 NORMAL : GOTO 670
670 HTAB 1: VTAB 22
680 PRINT "WANT TO PLAY ANOTHER HAND (Y/N)? ";
690 GET K$
700 IF K$ = "Y" THEN 170
710 IF K$ = "N" THEN HOME : END
720 GOTO 690

```

Program 45 FAIR BLACKJACK

"I always sit with mah back to tha wall. Thataways I can see whosa commin' through tha door."

—Line from the 1958 western film, *Billy's Brothers Make Snake Creek Look Bad*.

It's tough to beat the house with this one.

```
10 REM ** FAIR BLACKJACK **
20 REM
30 FOR N = 1 TO 14:M$ = CHR$(32): NEXT N
40 M$ = M$ + "BLACKJACK" + CHR$(13)
50 FOR N = 1 TO 39:B$ = B$ + "=": NEXT N
60 M$ = M$ + B$
70 TEXT : HOME : PRINT M$
80 PRINT "THIS GAME IS AN APPROXIMATION OF THE"
90 PRINT "POPULAR CARD GAME KNOWN AS 'BLACKJACK.'"
100 PRINT : PRINT "YOU AND THE DEALER (THE COMPUTER) DRAW"
110 PRINT "CARDS IN AN ATTEMPT TO COMPILE A SUM"
120 PRINT "THAT APPROACHES, BUT DOES NOT EXCEED,"
130 PRINT "21. (EXCEEDING 21 IS A 'BUST' -- YOU"
140 PRINT "AUTOMATICALLY LOOSE THE ROUND.)"
150 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 HOME : PRINT M$
180 DT = 0
190 FOR N = 1 TO INT (2 * RND (1)) + 3
200 D(N) = INT (12 * RND (1)) + 2
210 DT = DT + D(N)
220 NEXT N
230 DN = N - 1
240 HTAB 1: VTAB 4
250 PRINT "THE DEALER HAS "DN" CARDS, AND THE"
260 PRINT "TOP CARD IS "D(1)". "
270 PRINT B$
280 FOR N = 1 TO 2
290 P(N) = INT (12 * RND (1)) + 2
300 NEXT N
310 PN = N - 1
320 PT = 0
330 HTAB 1: VTAB 8
340 PRINT "YOUR CURRENT HAND LOOKS LIKE THIS:"
350 HTAB 1: VTAB 10
360 FOR N = 1 TO PN
370 PRINT P(N); SPC( 2)
380 PT = PT + P(N)
390 NEXT N
400 IF PT > 21 THEN 640
410 HTAB 1: VTAB 12: CALL - 868
420 PRINT "WANT ANOTHER CARD (Y/N)? ";
430 GET K$
440 IF K$ < > "Y" THEN 470
```

```

450 PN = PN + 1:P(PN) = INT (12 * RND (1)) + 2
460 GOTO 320
470 IF K$ < > "N" THEN 430
480 IF PT = 21 OR INT (4 * RND (1)) = 0 THEN 560
490 IF DT < = 21 AND ABS (21 - DT) < ABS (21 - PT) THEN 560
500 DT = D(1)
510 FOR N = 2 TO DN
520 D(N) = INT (12 * RND (1)) + 2
530 DT = DT + D(N)
540 NEXT N
550 GOTO 490
560 HTAB 1: VTAB 14: PRINT B$
570 HTAB 1: VTAB 16
580 PRINT "YOU HAVE "PT"."
590 PRINT "DEALER HAS "DT"."
600 IF DT > 21 THEN 690
610 IF DT = PT THEN 720
620 IF ABS (21 - DT) < ABS (21 - PT) THEN 720
630 GOTO 690
640 HTAB 1: VTAB 12: CALL - 868
650 HTAB 14
660 FLASH : PRINT "*** BUSTED ***"
670 FOR N = 1 TO 4: CALL - 198: NEXT N
680 NORMAL : GOTO 720
690 HTAB 14: VTAB 19
700 INVERSE : PRINT "*** YOU WIN ***"
710 NORMAL : GOTO 750
720 HTAB 11: VTAB 19
730 INVERSE : PRINT "*** DEALER WINS ***"
740 NORMAL : GOTO 750
750 HTAB 1: VTAB 22
760 PRINT "WANT TO PLAY ANOTHER HAND (Y/N)? ";
770 GET K$
780 IF K$ = "Y" THEN 170
790 IF K$ = "N" THEN HOME : END
800 GOTO 770

```

Program 46 PRESIDENTS QUIZ

"The buck stops here."

—President Harry S. Truman

This is a legitimate self-teaching program. No kidding—it really is.

```
10 REM ** U.S. PRESIDENTS QUIZ **
20 REM
30 FOR N = 1 TO 10: M$ = M$ + CHR$ (32): NEXT N
40 M$ = M$ + "U.S. PRESIDENTS QUIZ" + CHR$ (13)
50 FOR N = 1 TO 40: M$ = M$ + "***": NEXT N
60 DIM I$(40)
70 FOR N = 1 TO 40
80 READ F, I$(N)
90 NEXT N
100 TN = INT (39 * RND (1)) + 1
110 TN$ = I$(TN)
120 Q$(1) = I$(TN + 1)
130 C = 0
140 FOR N = 1 TO 3
150 Q$(N + 1) = I$( INT (40 * RND (1)) + 1)
160 C = C + 1: IF C < 20 THEN 190
170 HTAB 1: VTAB 3
180 PRINT "PLEASE WAIT ...": CALL - 958
190 IF Q$(N + 1) = TN$ THEN 150
200 FOR X = 1 TO N
210 IF Q$(N + 1) = Q$(X) THEN 150
220 NEXT X
230 NEXT N
240 R$(5) = "NONE OF THE ABOVE"
250 FOR N = 1 TO 4
260 R$(N) = Q$( INT (4 * RND (1)) + 1)
270 IF N = 1 THEN 310
280 FOR X = 1 TO N - 1
290 IF R$(X) = R$(N) THEN 260
300 NEXT X
310 NEXT N
320 HOME : PRINT M$
330 PRINT "WHICH ONE IMMEDIATELY SUCCEEDED"
340 PRINT "PRESIDENT "TN$"?"
350 PRINT
360 FOR N = 1 TO 5
370 PRINT TAB ( 5 ); N - "R$(N)"
380 NEXT N
390 PRINT
400 GET K$
410 NG = NG + 1
420 IF K$ < "1" OR K$ > "5" THEN 400
430 K = VAL (K$)
440 IF R$(K) = Q$(1) THEN 470
450 PRINT "THAT IS INCORRECT."
460 GOSUB 490: GOTO 130
470 PRINT "THAT IS CORRECT."
```

```

480 NC = NC + 1: GOSUB 490: GOTO 100
490 HTAB 1: VTAB 16
500 INVERSE
510 S = INT (100 * NC / NG)
520 PRINT "YOU HAVE "NC" CORRECT OUT OF "NG; SPC( 30 - POS (0))
530 PRINT
540 PRINT "FOR A SCORE OF "S"&" SPC( 30 - POS (0))
550 PRINT : NORMAL
560 HTAB 1: VTAB 21
570 PRINT "STRIKE THE SPACE BAR TO CONTINUE"
580 PRINT "(OR THE X KEY TO END THIS QUIZ) ...";
590 GET K$
600 IF K$ = CHR$ (32) THEN RETURN
610 IF K$ = "X" THEN END
620 GOTO 590
630 REM
640 DATA 1,GEORGE WASHINGTON
650 DATA 2,JOHN ADAMS
660 DATA 3,THOMAS JEFFERSON
670 DATA 4,JAMES MADISON
680 DATA 5,JAMES MONROE
690 DATA 6,JOHN QUINCY ADAMS
700 DATA 7,ANDREW JACKSON
710 DATA 8,MARTIN VAN BUREN
720 DATA 9,WILLIAM H. HARRISON
730 DATA 10,JOHN TYLER
740 DATA 11,JAMES K. POLK
750 DATA 12,ZACHARY TAYLOR
760 DATA 13,MILLARD FILLMORE
770 DATA 14,FRANKLIN PIERCE
780 DATA 15,JAMES BUCHANAN
790 DATA 16,ABRAHAM LINCOLN
800 DATA 17, ANDREW JACKSON
810 DATA 18,ULYSSES S. GRANT
820 DATA 19,RUTHERFORD B. HAYES
830 DATA 20,JAMES A. GARFIELD
840 DATA 21,CHESTER A. ARTHUR
850 DATA 22,GROVER CLEVELAND
860 DATA 23,BENJAMIN HARRISON
870 DATA 24,GROVER CLEVELAND
880 DATA 25,WILLIAM MCKINLEY
890 DATA 26,THEODORE ROOSEVELT
900 DATA 27,WILLIAM H. TAFT
910 DATA 28,WOODROW WILSON
920 DATA 29, WARREN G. HARDING
930 DATA 30,CALVIN COOLIDGE
940 DATA 31,HERBERT C. HOOVER
950 DATA 32,FRANKLIN D. ROOSEVELT
960 DATA 33,HARRY S. TRUMAN
970 DATA 34,DWIGHT D. EISENHOWER
980 DATA 35,JOHN F. KENNEDY
990 DATA 36,LYNDON B. JOHNSON
1000 DATA 37,RICHARD M. NIXON
1010 DATA 38, GERALD R. FORD
1020 DATA 39,JIMMY CARTER
1030 DATA 40,RONALD REAGAN

```

Program 47 STATES, CITIES, AND CAPITALS

"We pray for our leaders until we actually see them at work. Then we pray for our nation."

—Anonymous

This is an honest-to-goodness good program, too. Believe me—really, it is for sure.

```
10 REM ** STATES, CAPITALS AND CITIES **
20 REM
30 FOR N = 1 TO 12:M$ = M$ + CHR$(32): NEXT N
40 M$ = M$ + "NAME THE CAPITAL" + CHR$(13)
50 FOR N = 1 TO 40:M$ = M$ + " ": NEXT N
60 TEXT : HOME : PRINT M$
70 DIM I$(50,4)
80 FOR X = 1 TO 50
90 READ N
100 FOR Y = 1 TO 4
110 READ I$(X,Y)
120 NEXT Y,X
130 X = INT (50 * RND (1)) + 1
140 FOR N = 1 TO 3:Q$(N) = I$(X,N + 1): NEXT N
150 Q$(4) = I$(50 * RND (1) + 1,3 * RND (1) + 2)
160 FOR N = 1 TO 3
170 IF Q$(4) = Q$(N) THEN 150
180 NEXT N
190 Q$(5) = "NONE OF THE ABOVE"
200 CR = INT (4 * RND (1)) + 1
210 FOR N = 1 TO 4
220 C = 0
230 R$(N) = Q$( INT (4 * RND (4)) + 1)
240 C = C + 1: IF C < 10 THEN 270
250 HTAB 1: VTAB 3: PRINT "PLEASE WAIT ..."
260 CALL - 958
270 IF N = 1 THEN 310
280 FOR Y = 1 TO N - 1
290 IF R$(Y) = R$(N) THEN 230
300 NEXT Y
310 NEXT N
320 R$(5) = Q$(5)
330 HOME : PRINT M$
340 PRINT "WHICH OF THE FOLLOWING IS THE CAPITAL"
350 PRINT "OF "I$(X,1)" (1-5)?"
360 PRINT
370 FOR N = 1 TO 5
380 PRINT TAB( 5)N" - "R$(N)
390 NEXT N
400 PRINT
410 GET K$
420 IF K$ < "1" OR K$ > "5" THEN 410
430 PRINT K$
440 NT = NT + 1
```

```

450 IF R$( VAL (K$)) = I$(X,2) THEN 470
460 PRINT : PRINT "SORRY, THAT IS NOT CORRECT.": GOSUB 490: GOTO 140
470 PRINT : PRINT "THAT IS CORRECT."
480 NC = NC + 1: GOSUB 490: GOTO 130
490 INVERSE
500 HTAB 1: VTAB 17
510 SC = INT (100 * NC / NT)
520 PRINT NC" CORRECT OUT OF "NT; SPC( 25 - POS (0))
530 PRINT
540 PRINT "FOR A SCORE OF "SC"% SPC( 25 - POS (0))
550 NORMAL
560 HTAB 1: VTAB 20
570 PRINT "STRIKE THE SPACE BAR TO CONTINUE (OR"
580 PRINT "THE X KEY TO END THE QUIZ) ...";
590 GET K$
600 IF K$ = CHR$( 32) THEN RETURN
610 IF K$ = "X" THEN END
620 GOTO 590
630 DATA 1,ALABAMA,MONTGOMERY,BIRMINGHAM,MOBILE
640 DATA 2,ALASKA,JUNEAU,ANCHORAGE,FAIRBANKS
650 DATA 3,ARIZONA,PHOENIX,TUCSON,FLAGSTAFF
660 DATA 4,ARKANSAS,LITTLE ROCK,EL DORADO,FORT SMITH
670 DATA 5,CALIFORNIA,SACRAMENTO,LOS ANGELES,SAN FRANCISCO
680 DATA 6,COLORADO,DENVER,COLORADO SPRINGS,PUEBLO
690 DATA 7,CONNECTICUT,HARTFORD,BRIDGEPORT,WATERBURY
700 DATA 8,DELAWARE,DOVER,MILFORD,NEW CASTLE
710 DATA 9,FLORIDA,TALLAHASSEE,JACKSONVILLE,MIAMI
720 DATA 10,GEORGIA,ATLANTA,MACON,SAVANNAH
730 DATA 11,HAWAII,HONOLULU,WAIPAHU,KANEOHE
740 DATA 12,IDAHO,BOISE,POCATELLO,IDAHO FALLS
750 DATA 13,ILLINOIS,SPRINGFIELD,CHICAGO,PEORIA
760 DATA 14,INDIANA,INDIANAPOLIS,FORT WAYNE,SOUTH BEND
770 DATA 15,IOWA,DES MOINES,CEDAR RAPIDS,SIOUX CITY
780 DATA 16,KANSAS,TOPEKA,KANSAS CITY,WICHITA
790 DATA 17,KENTUCKY,FRANKFORT,LOUISVILLE,LEXINGTON
800 DATA 18,LOUISIANA,BATON ROUGE,NEW ORLEANS,SHREVEPORT
810 DATA 19,MAINE,AUGUSTA,PORTLAND,BRUNSWICK
820 DATA 20,MARYLAND,ANNAPOLIS,BALTIMORE,SILVER SPRINGS
830 DATA 21,MASSACHUSETTS,BOSTON,NEW BEDFORD,SPRINGFIELD
840 DATA 22,MICHIGAN,LANSING,DETROIT,GRAND RAPIDS
850 DATA 23,MINNESOTA,ST. PAUL,MINNEAPOLIS,ROCHESTER
860 DATA 24,MISSISSIPPI,JACKSON,MERIDIAN,HATTIESBURG
870 DATA 25,MISSOURI,JEFFERSON CITY,ST. LOUIS,SPRINGFIELD
880 DATA 26,MONTANA,HELENA,BILLINGS,GREAT FALLS
890 DATA 27,NEBRASKA,LINCOLN,OMAHA,HASTINGS
900 DATA 28,NEVADA,CARSON CITY,LAS VEGAS,RENO
910 DATA 29,NEW HAMPSHIRE,CONCORD,MANCHESTER,CLAREMONT
920 DATA 30,NEW JERSEY,TRENTON,NEWARK,ATLANTIC CITY
930 DATA 31,NEW MEXICO,SANTE FE,ALBUQUERQUE,ALAMOGORDA
940 DATA 32,NEW YORK,ALBANY,NEW YORK,SYRACUSE
950 DATA 33,NORTH CAROLINA,RALEIGH,CHARLOTTE,WINSTON-SALEM
960 DATA 34,NORTH DAKOTA,BISMARCK,FARGO,MINOT
970 DATA 35,OHIO,COLUMBUS,CLEVELAND,CINCINNATI
980 DATA 36,OKLAHOMA,OKLAHOMA CITY,TULSA,MUSKOGEE
990 DATA 37,OREGON,SALEM,PORTLAND,EUGENE
1000 DATA 38,PENNSYLVANIA,HARRISBURG,PHILADELPHIA,PITTSBURGH

```

1010 DATA 39,RHODE ISLAND,PROVIDENCE,NEWPORT,WARWICK
1020 DATA 40,SOUTH CAROLINA,COLUMBIA,AUGUSTA,CHARLESTON
1030 DATA 41,SOUTH DAKOTA,PIERRE,SIOUX FALLS,RAPID CITY
1040 DATA 42,TENNESSEE,NASHVILLE,MEMPHIS,KNOXVILLE
1050 DATA 43,TEXAS,AUSTIN,HOUSTON,DALLAS
1060 DATA 44,UTAH,SALT LAKE CITY,PROVO,OGDEN
1070 DATA 45,VERMONT,MONTPELIER,BURLINGTON,RUTLAND
1080 DATA 46,VIRGINIA,RICHMOND,NORFOLK,VIRGINIA BEACH
1090 DATA 47,WASHINGTON,OLYMPIA,SEATTLE,SPOKANE
1100 DATA 48,WEST VIRGINIA,CHARLESTON,HUNTINGTON,PARKERSBURG
1110 DATA 49,WISCONSIN,MADISON,MILWAUKEE,GREEN BAY
1120 DATA 50,WYOMING,CHEYENNE,LARAMIE,CASPER

Program 48 DRAW

"Art is the highest form of flattery."

—Overheard in a reducing salon in Miami Beach

```
10 REM ** DRAW PICTURES **
20 REM
30 TEXT : HOME
40 HTAB 8: VTAB 8
50 PRINT "SEE WHAT YOU CAN DRAW"
60 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
70 GET K$
80 GR
90 HOME
100 FOR N = 1 TO 40: PRINT "-";: NEXT N
110 PRINT "U=UP" SPC( 6) "D=DOWN" SPC( 6) "C=CHANGE COLOR"
120 PRINT "L=LEFT" SPC( 4) "R=RIGHT" SPC( 5) "X=END PROGRAM"
130 CL = 1
140 CH = 20: CV = 20
150 GOTO 260
160 K = PEEK ( - 16384)
170 IF K < 128 THEN 160
180 POKE - 16368,0
190 IF K = 213 AND CV > 0 THEN CV = CV - 1: GOTO 260
200 IF K = 196 AND CV < 38 THEN CV = CV + 1: GOTO 260
210 IF K = 204 AND CH > 0 THEN CH = CH - 1: GOTO 260
220 IF K = 210 AND CH < 39 THEN CH = CH + 1: GOTO 260
230 IF K = 195 THEN CL = CL + 1
240 IF CL > 15 THEN CL = 0
250 IF K = 216 THEN TEXT : HOME : END
260 COLOR= CL
270 PLOT CH,CV
280 GOTO 160
```

Program 49 MASTERPIECE ART

"Modern art is what happens when painters stop looking at girls and persuade themselves they have a better idea."

—John Ciardi

```
20 REM    ** MASTERPIECE ART **
30 REM
40 FOR N = 1 TO 12:M$ = M$ + CHR$ (32): NEXT N
50 M$ = M$ + "MASTERPIECE ART"
60 TEXT : HOME : PRINT M$: PRINT
70 PRINT : PRINT "THIS IS A VERY SOPHISTICATED PRO-"
80 PRINT "GRAM THAT GIVES ORDINARY COMPUTERS THE"
90 PRINT "POWER TO GENERATE MASTERPIECES OF ART"
100 PRINT "THAT RIVAL THOSE OF THE OLD MASTERS"
110 PRINT "OF THE PAST.": PRINT
120 PRINT "SIMPLY STRIKE THE SPACE BAR TO SEE"
130 PRINT "THIS WONDERFUL TECHNIQUE WORKING BE-"
140 PRINT "FORE YOUR VERY EYES."
150 VTAB 21: PRINT "STRIKE THE SPACE BAR NOW ...";
160 GET K$: IF K$ < > " " THEN 160
170 GR
180 HOME : PRINT : PRINT M$
190 FOR X = 1 TO 38: FOR Y = 1 TO 38
200 C = 255 * RND (1)
210 COLOR= C
220 PLOT X,Y
230 NEXT Y: NEXT X
240 HOME : PRINT "SEE THE ";
250 RESTORE
260 FOR N = 1 TO INT (8 * RND (1)) + 1
270 READ N$: NEXT N
280 PRINT N$"? "
290 VTAB 23
300 PRINT "STRIKE THE SPACE BAR TO PAINT ANOTHER"
310 PRINT "PICTURE, OR ANY OTHER KEY TO END...";
320 GET K$: IF K$ = CHR$ (32) THEN 170
330 TEXT : HOME : END
340 DATA DOGGIE,PRETTY LADY,KITTY CAT
350 DATA CLOWN,MESSY BEDROOM,TASTY PIZZA
360 DATA BEAUTIFUL MOUNTAINS, DEER BY THE CREEK
```

Program 50 WEATHER PREDICTOR

"Ditto, ditto, ditto . . ."

—Weather announcer in San Francisco

```
10 REM    ** WEATHER FORECASTER **
20 REM
30 FOR N = 1 TO 11: X$ = X$ + CHR$ (32): NEXT N
40 FOR N = 1 TO 40: Y$ = Y$ + " ": NEXT N
50 M$ = X$ + "WEATHER FORECASTER" + CHR$ (13) + Y$
60 TT$ = "TEMPERATURE: "
70 PP$ = "PRECIPITATION (Y/N)? "
80 TEXT : HOME : PRINT M$
90 PRINT "THIS IS A WEATHER-FORECASTING PROGRAM"
100 PRINT "THAT IS SO ACCURATE THAT IT WILL PUT"
110 PRINT "SOME LOCAL WEATHERPERSONS OUT OF WORK."
120 PRINT
130 PRINT "THE PROGRAM REQUESTS SOME WEATHER"
140 PRINT "DATA FOR THE PAST THREE DAYS -- MAKE"
150 PRINT "SURE THAT YOU HAVE THE INFORMATION"
160 PRINT "AT HAND BEFORE STARTING.": PRINT
170 PRINT "IF YOU SUPPLY THE CORRECT SORT OF"
180 PRINT "DATA, THE COMPUTER WILL PREDICT"
190 PRINT "WEATHER FOR YOUR AREA."
200 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
210 GET K$: HOME : PRINT M$
220 PRINT : PRINT "ENTER TODAY'S WEATHER SUMMARY:": PRINT
230 PRINT TAB( 5)TT$;
240 INPUT " "; TT
250 PRINT TAB( 5)PP$;
260 GET TP$
270 IF TP$ = "Y" OR TP$ = "N" THEN 290
280 GOTO 260
290 HOME : PRINT M$
300 PRINT : PRINT "ENTER YESTERDAY'S WEATHER SUMMARY:": PRINT
310 PRINT TAB( 5)TT$;
320 INPUT " "; YT
330 PRINT TAB( 5)PP$;
340 GET YP$
350 IF YP$ = "Y" OR YP$ = "N" THEN 370
360 GOTO 340
370 HOME : PRINT M$
380 PRINT "WEATHER SUMMARY FOR THE DAY BEFORE"
390 PRINT "YESTERDAY:": PRINT
400 PRINT TAB( 5)TT$;
410 INPUT " "; DT
420 PRINT TAB( 5)PP$;
430 GET DP$
440 IF DP$ = "Y" OR DP$ = "N" THEN 460
450 GOTO 430
460 HOME : PRINT M$
470 FT = (3 * TT + 2 * YT + DT) / 6
480 CP = 0
```

```
490 IF TP$ = "Y" THEN CP = CP + 50
500 IF YP$ = "Y" THEN CP = CP + 25
510 IF DP$ = "Y" THEN CP = CP + 13
520 CP = (10 * RND (1) - 5) + CP
530 CP = ABS (CP)
540 PRINT "WEATHER SUMMARY FOR THE NEXT TWO DAYS:": PRINT
550 PRINT : PRINT TAB( 5)"TEMPERATURE:"
560 PRINT TAB( 8)FT" DEGREES": PRINT
570 PRINT TAB( 5)"CHANCE OF PRECIPITATION:"
580 PRINT TAB( 8)CP"&"
590 VTAB 21: PRINT "THAT'S ALL, FOLKS."
600 END
```

Program 51 CRYSTAL BALL

If someone gives you so-called good advice, do the opposite; you can be sure it will be the right thing nine out of ten times.

—Anselm Feuerbach

```
10 REM ** CRYSTAL BALL **
20 REM
30 M$ = "ELEMENTARY CRYSTAL BALL" + CHR$ (13)
40 FOR K = 1 TO 40:Y$ = Y$ + "@": NEXT K
50 M$ = M$ + Y$
60 TEXT : HOME : PRINT M$
70 SPEED= 100
80 PRINT "AS GREAT AS COMPUTERS ARE, THEY'VE YET"
90 PRINT "TO BECOME THE MASTERS OF ALL VOCATIONS."
100 PRINT "THE CASE IN POINT IS A FORTUNE TELLER"
110 PRINT "AND HER CRYSTAL BALL.": PRINT
120 PRINT "THIS PROGRAM MARKS THE FIRST INTRUSION"
130 PRINT "INTO THE AGE-OLD PROFESSION. ITS OPER-"
140 PRINT "ATION IS LIMITED TO ANSWERING QUESTIONS"
150 PRINT "REQUIRING 'YES' OR 'NO' RESPONSES."
160 SPEED= 255
170 FOR T = 1 TO 2000: NEXT T
180 PRINT : FLASH
190 GOSUB 600
200 VTAB 18: PRINT "BUT IT IS A START!"
210 NORMAL
220 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
230 GET K$
240 DIM A$(4)
250 FOR K = 1 TO 4: READ A$(K): NEXT K
260 HOME : PRINT M$
270 VTAB 20: INVERSE
280 PRINT "ASK QUESTIONS THAT HAVE 'YES'OR 'NO'" SPC( 39 - POS (0))
290 PRINT : PRINT "ANSWERS. AND PLEASE USE NO PUNCTUATION.";
300 PRINT SPC( 39 - POS (0))
310 NORMAL
320 HTAB 1: VTAB 6
330 PRINT "WHAT IS YOUR QUESTION?": PRINT
340 INPUT " ";F$
350 IF LEN (F$) < 1 THEN 340
360 IF RIGHT$ (F$,1) = "?" THEN 380
370 F$ = F$ + "?"
380 N = INT ( RND (1) * 4 + 1)
390 IF LEN (F$) < 5 THEN PRINT : PRINT "THAT'S A SHORT QUESTION."
400 IF LEN (F$) > 25 THEN PRINT : PRINT "THAT'S A LONG QUESTION."
410 FOR T = 1 TO 1500: NEXT T
420 PRINT : PRINT "I AM THINKING ON IT NOW ..."
430 FOR T = 1 TO 2000: NEXT T
440 GOSUB 600
450 HOME : PRINT M$
460 PRINT "YOUR QUESTION WAS:": PRINT
470 PRINT F$: PRINT Y$
```

```

480 SPEED= 50
490 PRINT "THE CRYSTAL BALL SAYS:": PRINT
500 FLASH : PRINT A$(N): NORMAL
510 SPEED= 255
520 FOR T = 1 TO 1500: NEXT T
530 HTAB 1: VTAB 21
540 PRINT "WANT TO PEER INTO THE CRYSTAL BALL"
550 PRINT "AGAIN (Y/N)? ";
560 GET K$: IF K$ = "Y" THEN 260
570 IF K$ < > "N" THEN 560
580 HOME : END
590 DATA YES,NO,MAYBE,I CAN'T HELP YOU
600 POKE - 16304,0: POKE - 16302,0
610 FOR V = 1 TO 20
620 POKE - 16297,0
630 FOR T = 0 TO 10
640 X = PEEK ( - 16336)
650 NEXT T
660 POKE - 16298,0
670 NEXT V
680 TEXT : RETURN

```

Program 52 PRIVATE SHRINK

No one really listens to anyone else, and if you try it for a while, you'll see why.

—Mignon McLaughlin

```
10 REM ** PRIVATE SHRINK **
20 REM
30 DIM N$(20)
40 FOR K = 1 TO 14:M$ = M$ + CHR$(32): NEXT K
50 FOR K = 1 TO 40:Y$ = Y$ + "=": NEXT K
60 M$ = M$ + "PRIVATE SHRINK" + CHR$(13)
70 M$ = M$ + Y$
80 TEXT : HOME : PRINT M$
90 HOME : PRINT M$
100 VTAB 21: PRINT Y$
110 PRINT "ENTER 'BUGOFF' TO END THE SESSION."
120 VTAB 4
130 PRINT CHR$(32);"WHAT'S ON YOUR MIND?"
140 FOR K = 1 TO 10:N$(K) = " ": NEXT K
150 IF PEEK(37) > 18 THEN VTAB 4
160 CALL - 868
170 WC = 1
180 GET K$
190 PRINT K$;
200 IF POS(0) > 30 THEN PRINT : GOTO 250
210 IF K$ = CHR$(13) THEN 250
220 IF K$ = CHR$(32) THEN WC = WC + 1:K$ = " "
230 N$(WC) = N$(WC) + K$
240 GOTO 180
250 FOR L = 1 TO WC
260 IF N$(1) = "BUGOFF" THEN 440
270 IF N$(L) = "WHY" THEN N$(L) = " "
280 IF N$(L) = "BECAUSE" THEN N$(L) = " "
290 IF N$(L) = "WHO" THEN N$(L) = "THEY"
300 IF N$(L) = "WHAT" THEN N$(L) = "THAT"
310 IF N$(L) = "I" THEN N$(L) = "YOU": GOTO 340
320 IF N$(L) = "YOU" THEN N$(L) = "ME"
330 IF N$(L) = "ME" THEN N$(L) = "YOU"
340 IF N$(L) = "ARE" THEN N$(L) = "AM": GOTO 360
350 IF N$(L) = "AM" THEN N$(L) = "ARE"
360 NEXT L
370 CALL - 868
380 PRINT " WHY";
390 FOR L = 1 TO WC
400 PRINT CHR$(32);N$(L);
410 NEXT L
420 PRINT "?"
430 GOTO 140
440 HOME : PRINT M$
450 PRINT "THAT'S FINE WITH ME. I'LL SEND YOU THE"
460 PRINT "BILL TOMORROW."
470 VTAB 21: END
```

Program 53 ROBOT FLOOR PAINTER

Q: What did one fly say to the other when the man started painting the floor?

A: Wow. Let's make tracks.

—From *101 Ugly Things to do With a Punster* (unpublished manuscript)

```
10 REM ** ROBOT FLOOR PAINTER **
20 REM
30 TEXT : HOME
40 PRINT "ROBOT FLOOR PAINTER"
50 FOR K = 1 TO 40: PRINT "%";: NEXT K
60 PRINT
70 PRINT "WHO SAYS ROBOTS ARE SMARTER THAN PEOPLE?"
80 PRINT "THIS ONE CANNOT PAINT THE FLOOR IN A"
90 PRINT "ROOM WITHOUT EVENTUALLY SURROUNDING"
100 PRINT "ITSELF WITH WIDE AREAS OF WET PAINT."
110 PRINT : PRINT "THE THING IS FUN TO WATCH, THOUGH."
120 PRINT "IT CAN JUMP OVER NARROW AREAS OF PAINT,"
130 PRINT "AND IT IS SOMETIMES SURPRISING HOW MUCH"
140 PRINT "OF THE JOB IT CAN COMPLETE."
150 VTAB 21: PRINT "STRIKE ANY KEY TO START THE JOB ...";
160 GET K$
170 GR : HOME : GOSUB 370
180 VTAB 23: PRINT "ROBOT FLOOR PAINTER";
190 CH = 20:CV = 20:T = 0:NG = 0
200 I = INT (5 * RND (1)) - 2
210 J = INT (5 * RND (1)) - 2
220 IF I = 0 AND J = 0 THEN 200
230 T = T + 1: IF T > 100 THEN 440
240 NH = CH + I:NV = CV + J
250 IF SCRN( NH,NV) < > 0 THEN 200
260 G = PEEK ( - 16336)
270 NG = NG + 1:T = 0
280 HTAB 1: VTAB 21
290 INVERSE : PRINT "COMPLETION: ";
300 PRINT INT (100 * NG / 1290) "%"
310 COLOR= 13
320 PLOT CH,CV
330 COLOR= 9
340 PLOT NH,NV
350 CH = NH:CV = NV
360 GOTO 240
370 COLOR= 15
380 X = 0
390 FOR N = 0 TO 1: HLIN 0,39 AT N: NEXT N
400 FOR N = 38 TO 39: HLIN 0,39 AT N: NEXT N
410 FOR N = 0 TO 1: VLIN 0,39 AT N: NEXT N
420 FOR N = 38 TO 39: VLIN 0,39 AT N: NEXT N
430 RETURN
440 FOR N = 1 TO 5: CALL - 198: NEXT N
450 NORMAL
460 VTAB 23
```



```
470 PRINT "STRIKE THE SPACE BAR TO TRY AGAIN"  
480 PRINT "(OR THE X KEY TO TRY SOMETHING ELSE).";  
490 GET K$  
500 IF K$ = "X" THEN TEXT : HOME : END  
510 IF K$ = CHR$ (32) THEN 170  
520 GOTO 490
```

Program 54 ROBOT LAWNMOWER

The grass might look greener on the other side of the fence, but it grows faster on my side.

—From *A Treasury of Greatest Gripes* (unpublished)

```
10 REM ** ROBOT LAWNMOWER **
20 REM
30 M$ = "ROBOT LAWNMOWER" + CHR$(13)
40 FOR N = 1 TO 40: M$ = M$ + "§": NEXT N
50 TEXT : HOME : PRINT M$
60 PRINT "IT IS SAFE TO SAY THAT ROBOTS WILL SOON"
70 PRINT "RELIEVE US OF THE TIRESOME CHORE OF"
80 PRINT "MOWING OUR LAWNS. THE ROBOT LAWN MOWER"
90 PRINT "DEMONSTRATED IN THIS PROGRAM ISN'T"
100 PRINT "PARTICULARLY EFFICIENT, BUT IT"
110 PRINT "EVENTUALLY DOES THE JOB."
120 PRINT
130 PRINT : PRINT "LEGENDS FOR THIS SIMULATION:": PRINT
140 PRINT "ORANGE -- THE ROBOT LAWNMOWER"
150 PRINT "DARK GREEN -- UNCUT GRASS"
160 PRINT "LIGHT GREEN -- CUT GRASS"
170 PRINT "WHITE -- FENCE AROUND THE LAWN"
180 PRINT "YELLOW -- YOUR HOUSE"
190 PRINT "BLUE-GREEN -- STUFF THAT THE LAWN-"
200 PRINT TAB( 5) "MOWER ISN'T SUPPOSED TO TOUCH"
210 VTAB 22: PRINT "STRIKE ANY KEY TO BEGIN ...";
220 GET K$
230 GR : HOME : GOSUB 390
240 VTAB 22: PRINT "STRIKE ANY KEY TO END THE SIMULATION ...";
250 CH = 20: CV = 20
260 I = INT (5 * RND (1)) - 2
270 J = INT (5 * RND (1)) - 2
280 IF I = 0 AND J = 0 THEN 260
290 NH = CH + I: NV = CV + J
300 IF SCRN( NH, NV) > 12 THEN 260
310 G = PEEK ( - 16336)
320 HTAB 1: VTAB 21
330 COLOR= 12: PLOT CH, CV
340 COLOR= 9: PLOT NH, NV
350 CH = NH: CV = NV
360 K = PEEK ( - 16384): POKE - 16368, 0
370 IF K > 127 THEN TEXT : HOME : END
380 GOTO 290
390 COLOR= 4
400 FOR N = 0 TO 39
410 VLIN 0, 39 AT N
420 NEXT N
430 COLOR= 15
440 FOR N = 0 TO 1: HLIN 0, 39 AT N: NEXT N
450 FOR N = 38 TO 39: HLIN 0, 39 AT N: NEXT N
460 FOR N = 0 TO 1: VLIN 0, 39 AT N: NEXT N
470 FOR N = 38 TO 39: VLIN 0, 39 AT N: NEXT N
```

```
480  COLOR= 13
490  FOR N = 18 TO 22
500  VLIN 12,16 AT N
510  NEXT N
520  COLOR= 14
530  FOR N = 1 TO 12
540  W = INT (36 * RND (1)) + 2
550  Z = INT (36 * RND (1)) + 2
560  FOR X = W TO W + 3
570  FOR Y = Z TO Z + 3
580  IF SCRN( X,Y) < > 4 THEN 540
590  PLOT X,Y
600  NEXT Y,X,N
610  RETURN
```

Program 55 WALLPAPER SAMPLES

" 'nuff said."

—A full day's conversation overheard in Hooksett, New Hampshire

```
10 REM ** WALLPAPER SAMPLES **
20 REM
30 M$ = "CUSTOM WALLPAPER SAMPLES" + CHR$ (13)
40 FOR N = 1 TO 40: M$ = M$ + "=": NEXT N
50 TEXT : HOME : PRINT M$
60 PRINT "HI. WHAT'S YOUR FIRST NAME?"
70 INPUT " "; N$
80 IF LEN (N$) < 1 THEN 70
90 IF RIGHT$ (N$,1) < > CHR$ (32) THEN 110
100 N$ = RIGHT$ (N$, LEN (N$) - 1)
110 IF LEN (P$) < 40 THEN P$ = N$ + P$: GOTO 110
120 P$ = LEFT$ (P$,40)
130 N$ = N$ + CHR$ (32)
140 IF LEN (Q$) < 40 THEN Q$ = N$ + Q$: GOTO 140
150 Q$ = LEFT$ (Q$,40)
160 VTAB 21: PRINT "STRIKE ANY KEY TO SEE YOUR CUSTOM"
170 PRINT "WALLPAPER SAMPLES ...";
180 GET K$
190 FOR C = 1 TO 6: FOR P = 0 TO 1
200 NORMAL : HOME : PRINT M$
210 IF P = 1 THEN INVERSE
220 ON C GOSUB 260,310,360,470,580,640
230 NEXT P,C
240 NORMAL
250 HOME : END
260 FOR L = 4 TO 19
270 HTAB 12: VTAB L
280 PRINT LEFT$ (P$,L - 3)
290 NEXT L
300 GOTO 700
310 FOR L = 8 TO 18
320 HTAB 12: VTAB L
330 PRINT LEFT$ (P$,16)
340 NEXT L
350 GOTO 700
360 FOR L = 4 TO 19
370 HTAB 1: VTAB L
380 PRINT P$
390 NEXT L
400 FOR L = 5 TO 18
410 HTAB 12: VTAB L
420 FOR S = 1 TO L - 4
430 PRINT CHR$ (32);
440 NEXT S,L
450 HTAB 1: VTAB 21
460 GOTO 700
470 FOR L = 4 TO 19
480 HTAB 1: VTAB L
```

```

490 PRINT P$
500 NEXT L
510 FOR L = 6 TO 16
520 HTAB 12: VTAB L
530 FOR S = 1 TO 16
540 PRINT CHR$ (32);
550 NEXT S,L
560 HTAB 1: VTAB 21
570 GOTO 700
580 FOR L = 4 TO 19
590 HTAB 1: VTAB L
600 PRINT Q$
610 NEXT L
620 HTAB 1: VTAB 21
630 GOTO 700
640 HTAB 1: VTAB 4
650 PRINT Q$; CHR$ (32);
660 IF PEEK (37) < 20 THEN 650
670 HTAB 1: VTAB PEEK (37) + 1
680 FOR N = 1 TO 40: PRINT CHR$ (32);: NEXT N
690 GOTO 700
700 FOR T = 1 TO 1500: NEXT T
710 CALL - 198
720 RETURN

```

Program 56 DON'T TOUCH

"The only way to be rid of a temptation is to yield to it."

—Oscar Wilde

```
10 REM ** DON'T TOUCH! **
20 REM
30 N = 1:X = 6: GOSUB 250
40 N = 2:X = 27: GOSUB 250
50 N = 3:X = 32: GOSUB 250
60 TEXT : HOME
70 HTAB 11: VTAB 8
80 FLASH : PRINT "DON'T TOUCH ANY KEY": NORMAL
90 K = PEEK ( - 16384): IF K < 128 THEN 90
100 POKE - 16368,0
110 FOR H = 1 TO 25
120 FOR T = 1 TO 150: NEXT T
130 CALL - 198
140 X = INT (8 * RND (1))
150 HTAB 1
160 VTAB 22 * RND (1) + 1: CALL - 868
170 IF X > 5 THEN 200
180 HTAB 32 * RND (1) + 1: PRINT M$(1);
190 NEXT H: GOTO 220
200 HTAB 11 * RND (1) + 1: PRINT M$(2);
210 NEXT H
220 HTAB 1: VTAB 21
230 FLASH : PRINT M$(3): NORMAL
240 END
250 FOR Y = 1 TO X
260 READ D:M$(N) = M$(N) + CHR$ (D)
270 NEXT Y
280 RETURN
290 DATA 72,65,45,72,65,46,73,32,75,78,69
300 DATA 87,32,89,79,85,32,67,79,85,76
310 DATA 68,78,39,84,32,82,69,83,73,83,84,33
320 DATA 77,65,67,72,73,78,69,83,32,65
330 DATA 82,69,32,83,85,80,69,82,73,79
340 DATA 82,32,84,79,32,72,85,77
350 DATA 65,78,83,33
```

Program 57 · COMPUTER FIXER

He who is first to screw it up is often last to read the instructions.

—From *Wisdom of the Computer Age* (unpublished)

```
10 REM ** COMPUTER FIXER **
20 REM
30 GOSUB 570
40 FOR X = 1 TO 2
50 HOME
60 FLASH : IF X = 2 THEN NORMAL : INVERSE
70 FOR N = 1 TO 4
80 IF X = 1 THEN CALL - 198
90 PRINT M$(1) SPC( 2)
100 NEXT N
110 GOSUB 530
120 NEXT X
130 NORMAL
140 PRINT : PRINT M$(2): PRINT
150 GOSUB 530
160 SPEED= 100
170 PRINT M$(3)
180 PRINT M$(4) SPC( 1)M$(5)
190 PRINT M$(6)"!"
200 SPEED= 255
210 GOSUB 450
220 FOR N = 1 TO 4
230 GOSUB 360
240 FOR T = 1 TO 500
250 NEXT T,N
260 HTAB 1: VTAB 21
270 FLASH
280 PRINT M$(9) SPC( 1)M$(10);
290 FOR N = 1 TO 2: GOSUB 530: NEXT N
300 NORMAL
310 HTAB 1: VTAB 21: CALL - 958
320 BX = BX + 1: IF BX < 3 THEN 210
330 HOME : PRINT "DONE"
340 PRINT : PRINT CHR$ (93);
350 GOTO 350
360 POKE - 16304,0: POKE - 16302,0
370 FOR V = 1 TO 10
380 POKE - 16297,0
390 FOR X = 0 TO 10
400 X = PEEK ( - 16336)
410 NEXT X
420 POKE - 16298,0
430 NEXT V
440 TEXT : RETURN
450 FOR N = 1 TO 8
460 CV = 10 * RND (1) + 10:CH = 33 * RND (1) + 1
470 HTAB 1: VTAB CV: CALL - 868
480 HTAB CH: VTAB CV
```

```

490 PRINT M$(2 * RND (1) + 7);"."
500 GOSUB 540
510 NEXT N
520 RETURN
530 FOR T = 1 TO 1500: NEXT T: RETURN
540 FOR T = 1 TO 50 * RND (1) + 30
550 IF T < 20 THEN G = PEEK ( - 16336)
560 NEXT T: RETURN
570 READ M$(1)
580 X = 2:E = 8: GOSUB 680
590 READ M$(3)
600 X = 4:E = 17: GOSUB 680
610 READ M$(5)
620 X = 6:E = 11: GOSUB 680
630 X = 7:E = 7: GOSUB 680
640 X = 8:E = 5: GOSUB 680
650 READ M$(9)
660 X = 10:E = 11: GOSUB 680
670 RETURN
680 FOR N = 1 TO E
690 READ D
700 M$(X) = M$(X) + CHR$ (D)
710 NEXT N
720 RETURN
730 DATA ACHTUNG!
740 DATA 83,85,67,75,69,82,33,33
750 DATA YOU'VE JUST STARTED A PROGRAM THAT
760 DATA 73,83,32,78,79,87,32,68,69,83
770 DATA 84,82,79,89,73,78,71
780 DATA THIS COMPUTER
790 DATA 70,82,79,77,32,87,73,84,72,73,78
800 DATA 72,69,69,45,72,69,69
810 DATA 72,65,45,72,65
820 DATA THAT IS ANOTHER MICROCHIP
830 DATA 66,69,73,78,71,32,70,82,73,69,68

```


Program 58 WHAT'S WRONG #1

In a few minutes a computer can make a mistake so great that it would take many men many months to equal it.

—Merele L. Meacham

```
10 REM  ** WHAT'S WRONG? **
20 REM
30 HOME : VTAB 12
40 FOR N = 32 TO 1 STEP - 1
50 READ D: HTAB N: PRINT CHR$ (D);
60 NEXT N
70 VTAB 21
80 DATA 87,72,65,84,32,73,83,32,87,82,79
90 DATA 78,71,32,87,73,84,72,32,84,72,73
100 DATA 83,32,80,82,79,71,82,65,77,63
```

Program 59 WHAT'S WRONG # 2

What's wrong? What's right? Wrong's right. Right's wrong. What's what? It's what . . .
—Overheard in a coffee house in Greenwich Village, *circa* 1957

```
10 REM ** WHAT'S WRONG #2 **
20 REM
30 DIM Q(34)
40 M1$ = "Q: WHAT'S WRONG WITH THIS PROGRAM?"
50 FOR N = 1 TO 34
60 Q(N) = ASC ( MID$ (M1$,N,1))
70 NEXT N
80 HOME
90 FOR N = 1 TO 20
100 HTAB 17 + N: VTAB N
110 PRINT CHR$ (Q(N))
120 NEXT N
130 FOR N = 1 TO 14
140 HTAB 18 + N: VTAB N + 3
150 PRINT CHR$ (Q(N + 20))
160 NEXT N
170 CALL - 198
180 SPEED= 50
190 FOR T = 1 TO 2500: NEXT T
200 FOR N = 1 TO 23
210 G = PEEK ( - 16336)
220 HTAB 10 + N: VTAB N
230 READ D: PRINT CHR$ (D);
240 NEXT N
250 FOR N = 1 TO 17
260 G = PEEK ( - 16336)
270 HTAB 11 + N: VTAB N + 3
280 READ D: PRINT CHR$ (D)
290 NEXT N
300 SPEED= 255
310 HTAB 1: VTAB 21: END
320 DATA 65,58,32,78,79,84,72,73,78,71,46,32,84
330 DATA 72,69,32,80,73,67,84,85,82,69,32,84,85
340 DATA 66,69,32,73,83,32,67,82,79,79,75,69,68,46
```

Program 60 SURROGATE CUSSER

\$%^&***@

—Overheard at least 200 times daily in 70 different cities around the world.

```
10 REM ** SURROGATE CUSSER **
20 REM
30 FOR K = 1 TO 12:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "SURROGATE CUSSER" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "***": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "EVERYONE GETS ANGRY AT SOMEONE OR SOME--"
80 PRINT "THING EVERY ONCE IN A WHILE. THERE'S"
90 PRINT "REALLY NOTHING WRONG WITH THAT. SOME"
100 PRINT "FOLKS, HOWEVER, ARE RELUCTANT TO EX--"
110 PRINT "PRESS THOSE FEELINGS, THEMSELVES."
120 PRINT : PRINT "COMPUTERS ARE SUPPOSED TO BE OUR"
130 PRINT "SERVANTS; AND THAT IS INDEED THE CASE"
140 PRINT "HERE."
150 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ....";
160 GET K$
170 FOR K = 1 TO 4: READ W$(K): NEXT K
180 FOR K = 1 TO 4: READ A$(K): NEXT K
190 READ C$(1)
200 HOME : PRINT M$
210 PRINT "ARE YOU:": PRINT
220 PRINT TAB( 5)"(1) A LITTLE BIT ANGRY"
230 PRINT TAB( 5)"(2) SOMEWHAT ANGRY"
240 PRINT TAB( 5)"(3) VERY ANGRY"
250 PRINT TAB( 5)"(4) VERY, VERY ANGRY"
260 VTAB 14: PRINT "SELECT ONE: ";
270 GET K$: IF K$ < "1" OR K$ > "4" THEN 270
280 ON VAL (K$) GOTO 290,390,470,560
290 GOSUB 730
300 N = INT ( RND (1) * 4 + 1)
310 C$ = "":C$ = C$ + W$(N) + P$
320 N = INT ( RND (1) * 4 + 1):C$ = C$ + A$(N)
330 PRINT : PRINT C$
340 HTAB 1: VTAB 21
350 PRINT "WOULD YOU LIKE MORE CUSSING (Y/N)? ";
360 GET K$: IF K$ = "Y" THEN 200
370 IF K$ < > "N" THEN 360
380 HOME : END
390 GOSUB 730
400 N = INT ( RND (1) * 4 + 1)
410 C$ = W$(N) + CHR$ (32) + P$ + CHR$ (32)
420 N = INT ( RND (1) * 4 + 1)
430 C$ = C$ + A$(N)
440 PRINT : FLASH : PRINT C$: NORMAL
450 K = 7: GOSUB 840
460 GOTO 340
470 GOSUB 730
480 FLASH
```

```

490  FOR N = 1 TO 4 * RND (1) + 3
500  PRINT C$(1) SPC( 1)P$ SPC( 1)C$(1)
510  K = 3: GOSUB 840
520  NEXT N
530  NORMAL
540  K = 5: GOSUB 840
550  GOTO 340
560  HOME : PRINT M$
570  PRINT "THIS ONE IS ESPECIALLY VULGAR. WOMEN"
580  PRINT "AND CHILDREN SHOULD LEAVE THE ROOM!"
590  PRINT : PRINT "STRIKE ANY KEY WHEN READY ..."
600  GET K$
610  PRINT : PRINT "ARE YOU REALLY READY FOR THIS (Y/N)? ";
620  GET K$: IF K$ = "N" THEN 340
630  IF K$ < > "Y" THEN 620
640  HOME : PRINT M$
650  FOR N = 1 TO 32
660  Y = RND (1): IF Y > .6 THEN FLASH : GOTO 700
670  IF Y > .3 THEN INVERSE : GOTO 700
680  B = INT (Y * 10 + 1)
690  K = B: GOSUB 840
700  PRINT C$(1);: NORMAL
710  FOR T = 1 TO B * 25: NEXT T
720  NEXT N: GOTO 340
730  HOME : PRINT M$
740  PRINT "WHO OR WHAT IS THE OBJECT OF YOUR ANGER?"
750  PRINT
760  PRINT "(IF NO ONE OR NOTHING IN PARTICULAR,"
770  PRINT " SIMPLY STRIKE THE RETURN KEY.)"
780  PRINT : INPUT P$
790  P$ = CHR$ (32) + P$ + CHR$ (32)
800  HOME : PRINT M$: RETURN
810  DATA DARN,DOGGONE,SHOOT,FIDDLESTICKS
820  DATA JERK,MORON,WHIMP,IDIOT
830  DATA #$%&(*#0!
840  FOR U = 1 TO K: CALL - 198: NEXT U
850  RETURN

```

Program 61 ARROW SHOOT I

It is commonly known that Mr. Running "Quick-Draw" Silverhorse of Truth Or Consequences, New Mexico, holds the world record for the greatest number of arrows fired from a standard bow in 14 seconds: 28 of them. What is not so commonly known is his nickname: Old Scarfoot.

—From *Personal Accounts of the Ol' West* (unpublished)

```
10 REM ** SIMPLE ARROW SHOOT (#1) **
20 REM
30 FOR N = 1 TO 39: B$ = B$ + "=": NEXT N
40 FOR N = 1 TO 17: C$ = C$ + CHR$(13): NEXT N
50 M$ = "ARROW SHOOT #1" + CHR$(13) + B$ + C$ + B$
60 TEXT : HOME
70 VTAB 12: PRINT TAB(13)"ARROW SHOOT #1"
80 HTAB 5: PRINT "A SIMPLE GAME FOR SIMPLE MINDS"
90 FOR T = 1 TO 2000: NEXT T
100 VTAB 23
110 FOR P = 1 TO 15
120 FOR T = 1 TO 50: NEXT T
130 PRINT : NEXT P
140 HOME : PRINT M$
150 FE$ = "ARROW": F$ = ">": CH = 1: GOSUB 720
160 FE$ = "TARGET": F$ = "*": CH = 39: GOSUB 720
170 HOME : PRINT M$
180 VTAB 4
190 PRINT "VERY GOOD. NOW, YOUR OBJECTIVE IS TO"
200 PRINT "SHOOT THE ARROW THING:"
210 CALL -198: PRINT
220 PRINT TAB(19)">": PRINT
230 FOR T = 1 TO 2000: NEXT T
240 PRINT "AT THE TARGET THING:"
250 CALL -198: PRINT
260 PRINT TAB(19)*: PRINT
270 PRINT "UNDERSTAND?";
280 GET K$: IF K$ = "Y" THEN 320
290 IF K$ < > "N" THEN 280
300 PRINT : PRINT "TOO BAD."
310 FOR T = 1 TO 2000: NEXT T
320 HOME : PRINT M$
330 HTAB 1: VTAB 20
340 PRINT "D KEY=ARROW DOWN" SPC(6)
350 PRINT "U KEY=ARROW UP"
360 PRINT "SPACE BAR= FIRE ARROW" SPC(2)
370 PRINT "RETURN KEY=QUIT"
380 TV = INT(16 * RND(1)) + 3
390 HTAB 40: VTAB TV
400 PRINT "*";
410 HTAB 1: VTAB 12: PRINT ">";
420 K = PEEK(-16384): IF K < 128 THEN 420
430 POKE -16368,0
440 CH = PEEK(36) + 1: CV = PEEK(37) + 1
```

```

450 IF K = 213 AND CV > 3 THEN CV = CV - 1: GOTO 500
460 IF K = 196 AND CV < 18 THEN CV = CV + 1: GOTO 500
470 IF K = 160 THEN 530
480 IF K = 141 THEN HOME : END
490 GOTO 420
500 HTAB 1: PRINT CHR$ (32);
510 HTAB 1: VTAB CV: PRINT ">";
520 GOTO 420
530 FOR CH = 1 TO 39
540 HTAB CH: VTAB CV
550 PRINT CHR$ (32)">";
560 IF CH < 10 THEN G = PEEK ( - 16336)
570 NEXT CH
580 HTAB 1: VTAB 20: CALL - 958
590 IF CV = TV THEN 660
600 HTAB 1: VTAB 21
610 INVERSE : PRINT "HOW COULD YOU MISS THAT TARGET?": NORMAL
620 PRINT
630 PRINT "THAT'S TERRIBLE."
640 FOR T = 1 TO 2000: NEXT T
650 GOTO 320
660 CALL - 198
670 HTAB 1: VTAB 21
680 FLASH : PRINT "YOU GOT THE THING!": NORMAL
690 PRINT : PRINT "NO BIG DEAL -- BUT YOU DID IT RIGHT,"
700 PRINT "ANYHOW.";
710 GOTO 640
720 HTAB 1: VTAB 20: PRINT "THIS THING IS YOUR "FE$".
730 CALL - 958
740 FOR N = 1 TO 4
750 FOR CV = 3 TO 17
760 FOR T = 1 TO 10: NEXT T
770 HTAB CH: VTAB CV: PRINT CHR$ (32)
780 HTAB CH: PRINT F$;
790 NEXT CV
800 FOR CV = 17 TO 3 STEP - 1
810 FOR T = 1 TO 10: NEXT T
820 HTAB CH: VTAB CV + 1: PRINT CHR$ (32);
830 HTAB CH: VTAB CV: PRINT F$;
840 NEXT CV
850 NEXT N
860 HTAB 1: VTAB 22: PRINT "UNDERSTAND (Y/N)?";
870 GET K$: IF K$ = "N" THEN 720
880 IF K$ < > "Y" THEN 870
890 RETURN

```

Program 62 ARROW SHOOT II

He shot a little arrow into the sky,
The thing came down and got 'im in the eye.
The bad news, though, came from his physician,
Sorry, kid; no more stereoscopic vision.

—From *Modern American Poetry and Conundrums*

```
10 REM ** ARROW SHOOT #2 **
20 REM
30 FOR N = 1 TO 39: B$ = B$ + "=" : NEXT N
40 FOR N = 1 TO 17: C$ = C$ + CHR$(13) : NEXT N
50 M$ = "ARROW SHOOT #2" + CHR$(13) + B$ + C$ + B$
60 TEXT : HOME
70 VTAB 12: PRINT TAB(13)"ARROW SHOOT #2"
80 HTAB 5: PRINT "A TRICKY GAME FOR SIMPLE MINDS"
90 FOR T = 1 TO 2000: NEXT T
100 VTAB 23
110 FOR P = 1 TO 15
120 FOR T = 1 TO 50: NEXT T
130 PRINT : NEXT P
140 HOME : PRINT M$
150 HTAB 1: VTAB 20
160 PRINT "D KEY=ARROW DOWN" SPC(6)
170 PRINT "U KEY=ARROW UP"
180 PRINT "SPACE BAR= FIRE ARROW" SPC(2)
190 PRINT "RETURN KEY=QUIT"
200 TH = 39: TV = 12: DF = 0
210 AH = 1: AV = INT(16 * RND(1)) + 3
220 TI = 1: SF = 0
230 GOSUB 480
240 GOSUB 340
250 IF SF = 1 THEN 310
260 K = PEEK(-16384): POKE -16368, 0
270 IF K = 213 OR K = 196 THEN GOSUB 480
280 IF K = 141 THEN HOME : END
290 IF K = 160 THEN SF = 1
300 GOTO 320
310 GOSUB 540
320 IF DF = 1 THEN 140
330 GOTO 240
340 TD = TD + 1: IF TD < 5 THEN 470
350 TD = 0
360 IF TV < 17 AND TV > 3 THEN 380
370 TI = TI * (-1)
380 HTAB TH: VTAB TV: PRINT CHR$(32)
390 HTAB TH: PRINT CHR$(32);
400 TV = TV + TI
410 IF TI > 0 THEN 450
420 HTAB TH: VTAB TV + 1: PRINT CHR$(32);
430 HTAB TH: VTAB TV: PRINT "**";
440 GOTO 470
```

```

450 HTAB TH: VTAB TV: PRINT CHR$ (32)
460 HTAB TH: PRINT "**";
470 RETURN
480 HTAB AH: VTAB AV: PRINT CHR$ (32)
490 IF K = 213 AND AV > 3 THEN AV = AV - 1: GOTO 510
500 IF K = 196 AND AV < 18 THEN AV = AV + 1: GOTO 510
510 HTAB AH: VTAB AV: PRINT CHR$ (32);
520 HTAB AH: VTAB AV: PRINT ">";
530 RETURN
540 IF AH = 1 THEN 560
550 IF AH > 39 THEN 610
560 HTAB AH: VTAB AV
570 IF AH < 10 THEN G = PEEK ( - 16336)
580 PRINT CHR$ (32);">";
590 AH = AH + 1
600 RETURN
610 HTAB 1: VTAB 20: CALL - 958
620 IF AV = TV AND ABS (AH - TH) < 2 THEN 640
630 PRINT "YOU MISSED IT.": GOTO 660
640 CALL - 198: PRINT "YOU GOT THE LITTLE SUCKER."
650 PRINT : PRINT "NICE SHOOTING.";
660 FOR T = 1 TO 2000: NEXT T
670 POKE - 16368,0
680 DF = 1: RETURN

```


Program 63 ARROW SHOOT III

OK. So you shoot an arrow at the target. It goes half way. Right. Then it goes half the rest of the way. Right? Then it goes half the rest of the way again. Right? It never gets there. Right?

—Zeno (paraphrased)

```
10 REM ** ARROW SHOOT #3 **
20 REM
30 FOR N = 1 TO 39: B$ = B$ + "=" : NEXT N
40 FOR N = 1 TO 17: C$ = C$ + CHR$ (13) : NEXT N
50 M$ = "ARROW SHOOT #3" + CHR$ (13) + B$ + C$ + B$
60 TEXT : HOME
70 VTAB 12: PRINT TAB ( 13) "ARROW SHOOT #3"
80 HTAB 4: PRINT "A LITTLE GAME FOR MUDDLED MINDS"
90 FOR T = 1 TO 2000: NEXT T
100 VTAB 23
110 FOR P = 1 TO 15
120 FOR T = 1 TO 50: NEXT T
130 PRINT : NEXT P
140 HOME : PRINT M$
150 HTAB 1: VTAB 20
160 PRINT "D KEY=ARROW DOWN" SPC ( 6)
170 PRINT "U KEY=ARROW UP"
180 PRINT "SPACE BAR= FIRE ARROW" SPC ( 2)
190 PRINT "RETURN KEY=QUIT"
200 TH = 39: TV = 12: DF = 0
210 AH = 1: AV = INT (16 * RND (1)) + 3
220 TI = 1: SF = 0
230 DI = - 1: DH = 36: DV = 12
240 GOSUB 500
250 GOSUB 360
260 GOSUB 760
270 IF SF = 1 THEN 330
280 K = PEEK ( - 16384): POKE - 16368, 0
290 IF K = 213 OR K = 196 THEN GOSUB 500
300 IF K = 141 THEN HOME : END
310 IF K = 160 THEN SF = 1
320 GOTO 340
330 GOSUB 560
340 IF DF = 1 THEN 140
350 GOTO 250
360 TD = TD + 1: IF TD < 2 THEN 490
370 TD = 0
380 IF TV < 17 AND TV > 3 THEN 400
390 TI = TI * ( - 1)
400 HTAB TH: VTAB TV: PRINT CHR$ (32)
410 HTAB TH: PRINT CHR$ (32);
420 TV = TV + TI
430 IF TI > 0 THEN 470
440 HTAB TH: VTAB TV + 1: PRINT CHR$ (32);
450 HTAB TH: VTAB TV: PRINT "**";
460 GOTO 490
```

```

470 HTAB TH: VTAB TV: PRINT CHR$ (32)
480 HTAB TH: PRINT "**";
490 RETURN
500 HTAB AH: VTAB AV: PRINT CHR$ (32)
510 IF K = 213 AND AV > 3 THEN AV = AV - 1: GOTO 530
520 IF K = 196 AND AV < 18 THEN AV = AV + 1: GOTO 530
530 HTAB AH: VTAB AV: PRINT CHR$ (32);
540 HTAB AH: VTAB AV: PRINT ">";
550 RETURN
560 IF AH < DH - 1 THEN 590
570 IF AV = DV AND ABS (AH - DH) < 2 THEN 640
580 IF AH > 39 THEN 640
590 HTAB AH: VTAB AV
600 IF AH < 10 THEN G = PEEK ( - 16336)
610 PRINT CHR$ (32);">";
620 AH = AH + 1
630 RETURN
640 HTAB 1: VTAB 20: CALL - 958
650 IF AV = DV AND ABS (AH - DH) < 2 THEN 710
660 IF AV = TV AND ABS (AH - TH) < 2 THEN 680
670 PRINT "YOU MISSED IT.": GOTO 730
680 CALL - 198: PRINT "YOU GOT THE LITTLE SUCKER."
690 PRINT : PRINT "NICE SHOOTING.";
700 GOTO 730
710 PRINT "YOU SHOT ANOTHER HUNTER!"
720 PRINT "REPORT IMMEDIATELY TO THE LOCAL SHERIFF."
730 FOR T = 1 TO 2500: NEXT T
740 POKE - 16368,0
750 DF = 1: RETURN
760 IF DV < 17 AND DV > 3 THEN 780
770 DI = DI * ( - 1)
780 HTAB DH: VTAB DV: PRINT CHR$ (32)
790 HTAB DH: PRINT CHR$ (32);
800 DV = DV + DI
810 IF DI > 0 THEN 850
820 HTAB DH: VTAB DV + 1: PRINT CHR$ (32);
830 HTAB DH: VTAB DV: PRINT "!";
840 GOTO 870
850 HTAB DH: VTAB DV: PRINT CHR$ (32)
860 HTAB DH: PRINT "!";
870 RETURN

```

Program 64 ARROW SHOOT IV

There's a lollipop born every minute.

—P.T. Barnum's Uncle Ed

```
10 REM ** ARROW SHOOT #4 **
20 REM
30 FOR N = 1 TO 39: B$ = B$ + "=": NEXT N
40 FOR N = 1 TO 17: C$ = C$ + CHR$(13): NEXT N
50 M$ = "ARROW SHOOT #4" + CHR$(13) + B$ + C$ + B$
60 TEXT : HOME
70 VTAB 12: PRINT TAB(13) "ARROW SHOOT #4"
80 HTAB 5: PRINT "A TRICKY GAME FOR SIMPLE MINDS"
90 FOR T = 1 TO 2000: NEXT T
100 VTAB 23
110 FOR P = 1 TO 15
120 FOR T = 1 TO 50: NEXT T
130 PRINT : NEXT P
140 HOME : PRINT M$
150 HTAB 1: VTAB 20
160 PRINT "D KEY=ARROW DOWN" SPC(6)
170 PRINT "U KEY=ARROW UP"
180 PRINT "SPACE BAR=FIRE ARROW" SPC(2)
190 PRINT "RETURN KEY=QUIT"
200 TH = 39: TV = 12: DF = 0
210 AH = 1: AV = INT(16 * RND(1)) + 3
220 TI = 1: SF = 0
230 GOSUB 480
240 GOSUB 340
250 IF SF = 1 THEN 310
260 K = PEEK(-16384): POKE -16368, 0
270 IF K = 213 OR K = 196 THEN GOSUB 480
280 IF K = 141 THEN HOME : END
290 IF K = 160 THEN SF = 1
300 GOTO 320
310 GOSUB 540
320 IF DF = 1 THEN 140
330 GOTO 240
340 TD = TD + 1: IF TD < 5 THEN 470
350 TD = 0
360 IF TV < 17 AND TV > 3 THEN 380
370 TI = TI * (-1)
380 HTAB TH: VTAB TV: PRINT CHR$(32)
390 HTAB TH: PRINT CHR$(32);
400 TV = TV + TI
410 IF TI > 0 THEN 450
420 HTAB TH: VTAB TV + 1: PRINT CHR$(32);
430 HTAB TH: VTAB TV: PRINT "**";
440 GOTO 470
450 HTAB TH: VTAB TV: PRINT CHR$(32)
460 HTAB TH: PRINT "**";
470 RETURN
480 HTAB AH: VTAB AV: PRINT CHR$(32)
```

```

490 IF K = 213 AND AV > 3 THEN AV = AV - 1: GOTO 510
500 IF K = 196 AND AV < 18 THEN AV = AV + 1: GOTO 510
510 HTAB AH: VTAB AV: PRINT CHR$ (32);
520 HTAB AH: VTAB AV: PRINT ">";
530 RETURN
540 IF AH = 1 THEN 560
550 IF AH > 39 THEN 610
560 HTAB AH: VTAB AV
570 IF AH < 10 THEN G = PEEK ( - 16336)
580 PRINT CHR$ (32);">";
590 AH = AH + 1
600 RETURN
610 HTAB 1: VTAB 20: CALL - 958
620 IF AV = TV AND ABS (AH - TH) < 2 THEN 670
630 PRINT "YOU MISSED IT."
640 FOR T = 1 TO 2000: NEXT T
650 POKE - 16368,0
660 DF = 1: RETURN
670 CALL - 198
680 FOR AH = AH - 1 TO 1 STEP - 1
690 VTAB AV: HTAB AH
700 PRINT "<" + CHR$ (32);
710 NEXT AH
720 HTAB 1: VTAB 20: CALL - 958
730 FOR N = 1 TO 4: CALL - 198: NEXT N
740 PRINT "OUCH! *&$$#@ $"
750 GOTO 640

```

Program 65 GENETIC EXPERIMENTS

The many slight differences which appear in the offspring from the same parents, or which it may be presumed have thus arisen, from being observed in the individuals of the same species inhabiting the same confined locality, may be called individual differences.

—Charles Darwin in *The Origin of Species*

```
10 REM  ** GENETIC EXPERIMENTS **
20 REM
30 FOR K = 1 TO 10:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "GENETIC EXPERIMENTS" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "***": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "THIS PROGRAM OFFERS YOU A CHANCE TO"
80 PRINT "CONDUCT SOME AWARD-WINNING EXPERIMENTS"
90 PRINT "IN GENETIC CROSS-BREEDING."
100 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
110 GET K$
120 HOME : PRINT M$
130 PRINT "ENTER A SPECIES (MALE):"
140 INPUT " ";LM$
150 IF LEN (LM$) < 1 THEN 140
160 PRINT : PRINT "ENTER A SPECIES (FEMALE):"
170 INPUT " ";F$
180 IF LEN (F$) < 1 THEN 170
190 W$ = LEFT$ (LM$,2) + RIGHT$ (F$,3)
200 PRINT : PRINT "CROSS THEM THAT WAY, AND YOU GET:"
210 INVERSE : PRINT W$: NORMAL
220 PRINT : PRINT : PRINT "WOULD YOU LIKE TO SWITCH THE MALE AND"
230 PRINT "FEMALE SPECIES (Y/N)?";
240 GET K$: IF K$ = "N" THEN 310
250 IF K$ = "Y" THEN 270
260 GOTO 240
270 W$ = LEFT$ (F$,3) + RIGHT$ (LM$,2)
280 PRINT : PRINT
290 PRINT "CROSS THEM THAT WAY, AND YOU GET:"
300 INVERSE : PRINT W$: NORMAL
310 HTAB 1: VTAB 21: PRINT "WOULD YOU LIKE TO TRY A NEW"
320 PRINT "EXPERIMENT (Y/N)?";
330 GET K$: IF K$ < > "N" AND K$ < > "Y" THEN 310
340 IF K$ = "Y" THEN 120
350 END
```

Program 66 GOPHER HUNT

Go-go Gophers

—Sign on a pest control truck in Kokomo

—Sign on a frat house in Duluth

```
10 REM    ** GOPHER HUNT **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "GOPHER HUNT" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + CHR$ (42)
60 NEXT K
70 TEXT : HOME : PRINT : PRINT M$
80 PRINT "THIS PROGRAM GIVES YOU A CHANCE TO"
90 PRINT "PRACTICE CATCHING GOPHERS IN A LAWN."
100 PRINT "THE PESKY LITTLE CRITTERS POP UP HERE"
110 PRINT "AND THERE, AND YOU NEVER KNOW WHERE."
120 PRINT : PRINT "YOU CAN CHASE THE GOPHERS BY WORKING"
130 PRINT "THE U, D, L AND R KEYS (UP, DOWN, LEFT"
140 PRINT "AND RIGHT)."
150 PRINT : PRINT "THERE'S A CATCH TO CATCHING A GOPHER,"
160 PRINT "THOUGH: EVERY TIME YOU CATCH ONE"
170 PRINT "OF THEM, THEY GIVE YOU FEWER MOVES"
180 PRINT "FOR CATCHING THE NEXT."
190 HTAB 1: VTAB 20
200 PRINT "STRIKE ANY KEY TO BEGIN ...";
210 GET K$
220 GR : COLOR= 12
230 FOR N = 0 TO 39: VLIN 0,39 AT N: NEXT N
240 COLOR= 15
250 LEV = 50:SC = 0
260 R = 20:C = 20: PLOT C,R
270 GOSUB 510
280 GOSUB 430
290 COLOR= 12: PLOT C,R
300 COLOR= 15
310 IF K = 204 THEN C = C - 1
320 IF K = 210 THEN C = C + 1
330 IF K = 196 THEN R = R + 1
340 IF K = 213 THEN R = R - 1
350 IF C > 38 THEN C = 38
360 IF C < 1 THEN C = 1
370 IF R > 38 THEN R = 38
380 IF R < 1 THEN R = 1
390 IF GX = C AND GY = R THEN GOSUB 510
400 COUNT = COUNT - 1
410 IF COUNT = 0 THEN 580
420 COLOR= 15: PLOT C,R: GOTO 280
430 HTAB 1: VTAB 22
440 PRINT "U=UP" SPC( 6)"D=DOWN" SPC( 6)"SCORE="SC - 1
450 PRINT "R=RIGHT" SPC( 3)"L=LEFT" SPC( 6)"MOVES TO GO="COUNT "
460 XX = PEEK ( - 16336)
470 K = PEEK ( - 16384)
```

```

480 IF K < 128 THEN 470
490 POKE - 16368,0
500 RETURN
510 GX = INT ( RND (1) * 35 + 1)
520 GY = INT ( RND (1) * 35 + 1)
530 CALL - 198
540 SC = SC + 1
550 COLOR= 9: PLOT GX,GY
560 COUNT = LEV:LEV = LEV - 3
570 RETURN
580 TEXT : HOME : VTAB 3: PRINT M$
590 SC = SC - 1
600 VTAB 6: PRINT "YOU HAVE CAPTURED "SC" GOPHER(S)."
610 PRINT
620 PRINT "THE BEST SERIES SCORE IS "TS" GOPHER(S)."
630 IF TS < SC THEN PRINT TAB( 5)"(YOU'VE DONE BETTER)"
640 IF TS > SC THEN PRINT TAB( 5)"(YOU'VE DONE WORSE)"
650 IF SC > TS THEN TS = SC
660 PRINT : PRINT "WOULD YOU LIKE TO PLAY AGAIN (Y/N)? ";
670 GET K$
680 IF K$ = "Y" THEN 220
690 IF K$ = "N" THEN HOME : END
700 GOTO 670

```

Program 67 PARACHUTE JUMPER

If at first you don't succeed, try and try again.

—Someone who has no sky-diving friends

```
10 REM ** PARACHUTE JUMPER **
20 REM
30 M$ = ""
40 FOR K = 1 TO 16:GM$ = GM$ + " ": NEXT K
50 GM$ = CHR$ (13) + GM$ + "** GERONIMO *"
60 FU = 0
70 FOR K = 1 TO 12:M$ = M$ + " ": NEXT K
80 M$ = M$ + "PARACHUTE JUMPER" + CHR$ (13)
90 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
100 TEXT : HOME : PRINT M$
110 PRINT "YOU ARE AN ACE SKYDIVER. YOUR MISSION"
120 PRINT "IS TO DROP INTO A CITY TO SAVE SOME"
130 PRINT "STOLEN PLUTONIUM.": PRINT
140 PRINT "IT IS UP TO YOU TO SIGNAL THE PILOT"
150 PRINT "THAT YOU ARE READY TO JUMP BY STRIKING"
160 PRINT "THE SPACE BAR.": PRINT
170 PRINT "IF YOU FAIL TO JUMP AT THE CORRECT"
180 PRINT "MOMENT, YOU WILL SMASH INTO A BUILDING."
190 PRINT "OR IF YOU FAIL TO JUMP AT ALL, THE"
200 PRINT "PLANE WILL RUN OUT OF FUEL, AND YOU"
210 PRINT "WILL ALL PERISH."
220 VTAB 21: PRINT "STRIKE THE SPACE BAR TO BEGIN ...";
230 GET K$
240 BD = 1
250 HOME : GR
260 BD = BD + 1: IF BD = 4 THEN BD = 1
270 IF BD = 1 THEN SK = 0
280 IF BD = 2 THEN SK = 7
290 IF BD = 3 THEN SK = 9
300 COLOR= SK
310 FOR Y = 0 TO 39: HLIN 0,39 AT Y: NEXT Y
320 HTAB 1
330 PRINT " *** HIT THE SPACE BAR TO JUMP *** "
340 DH = 0:NH = 0
350 FL = 0
360 COLOR= 117
370 FOR P = 1 TO 39
380 H = INT ( RND (1) * 20 + 20)
390 VLIN H,39 AT P
400 NEXT P
410 COLOR= SK
420 VLIN 0,39 AT 18
430 COLOR= 2: PLOT 18,39
440 COLOR= 14:V = 10
450 FOR H = 0 TO 39
460 GOSUB 860
470 COLOR= 4: PLOT H,V
480 IF FL < > 1 THEN 520
```



```

490 IF DH < 10 THEN COLOR= 14: GOTO 510
500 COLOR= 13
510 PLOT NH,V + DH
520 FOR T = 1 TO 200: NEXT T
530 COLOR= SK: PLOT H,V
540 PLOT NH,V + DH
550 KB = PEEK ( - 16384): POKE - 16368,0
560 IF FL = 1 THEN 580
570 IF KB = 160 THEN FL = 1:R = H: GOSUB 900
580 IF FL = 1 THEN DH = H - R
590 IF DH < 10 THEN NH = H
600 CLK = PEEK ( - 16336)
610 U = SCRN( NH,V + DH + 1)
620 IF U = 2 OR U = 1 THEN 770
630 IF U = 5 THEN 720
640 NEXT H
650 H = 1
660 FU = FU + 1
670 IF FU < 2 THEN 450
680 IF FU < > 2 THEN 710
690 HOME : PRINT "*** YOU'RE LOW ON FUEL ***"
700 GOTO 450
710 IF FU = 3 THEN FL = 1: GOSUB 900: GOTO 450
720 TEXT : HOME : PRINT M$
730 CALL ( - 198): CALL ( - 198)
740 PRINT : PRINT "**** SPLAT ****"
750 PRINT : PRINT "YOU JUST HIT A BUILDING"
760 GOTO 810
770 TEXT : HOME : PRINT M$
780 FOR T = 1 TO 6: CALL ( - 198): NEXT T
790 PRINT "*** CONGRATULATIONS, ACE ***"
800 PRINT : PRINT "YOU SAVED THE PLUTONIUM"
810 VTAB 21
820 PRINT "WOULD YOU LIKE ANOTHER MISSION (Y/N)? ";
830 GET K$: IF K$ = "Y" THEN 250
840 IF K$ = "N" THEN HOME : END
850 GOTO 830
860 COLOR= 2
870 IF H / 2 = INT (H / 2) THEN COLOR= 1
880 PLOT 18,39
890 RETURN
900 HOME : PRINT GM$: FOR S = 1 TO 3: CALL ( - 198): NEXT S
910 FU = 0
920 R = H:DH = H - R
930 IF DH < 10 THEN NH = H
940 RETURN

```

Program 68 LIFEGUARD

Tall lifeguards don't have to know how to swim.

—Lazarus Long (paraphrased)

```
10 REM    ** LIFEGUARD **
20 REM
30 M$ = ""
40 FOR K = 1 TO 15:M$ = M$ + CHR$ (32): NEXT K
50 M$ = M$ + "LIFEGUARD" + CHR$ (13)
60 FOR K = 1 TO 40:M$ = M$ + "***": NEXT K
70 HOME : PRINT M$
80 PRINT "YOU ARE A LIFEGUARD AT THE OL' SWIMMING"
90 PRINT "HOLE. A SWIMMER IS DROWNING, AND YOU"
100 PRINT "ARE ABOUT TO GO TO THE RESCUE."
110 PRINT : PRINT "THE ONLY PROBLEM IS THAT THE SWIMMER IS"
120 PRINT "UNDERWATER MOST OF THE TIME. YOU HAVE"
130 PRINT "TO SWIM IN ONE DIRECTION OR ANOTHER,"
140 PRINT "AND LISTEN FOR THE SCREAMS FOR HELP."
150 PRINT "THE GREATER THE NUMBER OF SCREAMS, THE"
160 PRINT "CLOSER YOU ARE (AT THE MOMENT)."
```

VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";

```
180 GET K$
190 HOME : PRINT M$: PRINT
200 PRINT "WHERE IS THE SWIMMER?": PRINT
210 PRINT "(EAST, WEST, NORTH, SOUTH, ROCK) : ";
220 INPUT K$
230 K$ = LEFT$ (K$, 1)
240 P = INT ( RND (1) * 5 + 1)
250 IF K$ < > "N" THEN 300
260 IF P = 1 THEN 500
270 IF P = 2 THEN L = 1: GOTO 590
280 IF P < 4 THEN L = 2: GOTO 590
290 L = 3: GOTO 590
300 IF K$ < > "S" THEN 350
310 IF P = 2 THEN 500
320 IF P = 1 THEN L = 1: GOTO 590
330 IF P = 3 THEN L = 2: GOTO 590
340 L = 3: GOTO 590
350 IF K$ < > "E" THEN 400
360 IF P = 3 THEN 500
370 IF P = 2 THEN L = 1: GOTO 590
380 IF P = 1 THEN L = 2: GOTO 590
390 L = 3: GOTO 590
400 IF K$ < > "W" THEN 450
410 IF P = 4 THEN 500
420 IF P = 5 THEN L = 1: GOTO 590
430 IF P > 3 THEN L = 2: GOTO 590
440 L = 3: GOTO 590
450 IF K$ < > "R" THEN 210
460 IF P = 5 THEN 500
470 IF P = 4 THEN L = 1: GOTO 590
480 IF P = 3 THEN L = 2: GOTO 590
```

```

490 L = 3: GOTO 590
500 HOME : PRINT M$
510 FOR K = 1 TO 5: CALL ( - 198): NEXT K
520 PRINT : PRINT "GOOD JOB. YOU JUST SAVED THE"
530 PRINT "SWIMMER'S LIFE."
540 VTAB 21: PRINT "ARE YOU STILL ON DUTY (Y/N)?";
550 GET K$
560 IF K$ = "Y" THEN 190
570 IF K$ < > "N" THEN 550
580 HOME : END
590 HOME : PRINT M$: PRINT
600 FOR J = 1 TO 5 - L
610 PRINT " HELP": PRINT : CALL ( - 198)
620 NEXT J
630 GOTO 200

```

Program 69 COMPUTERIZED HOME STATUS

The more we have to do with computers, the more we can know about matters of lesser importance.

—Anonymous (by choice)

```
10 REM ** HOME STATUS REPORTS **
20 REM
30 DIM H$(11)
40 M$ = "COMPUTERIZED HOME STATUS REPORT" + CHR$(13)
50 FOR N = 1 TO 40: M$ = M$ + "-": NEXT N
60 FOR X = 1 TO 3: FOR N = 1 TO 5
70 ON X GOTO 80,90,100
80 READ A$(N): GOTO 110
90 READ B$(N): GOTO 110
100 READ C$(N)
110 NEXT N,X
120 FOR X = 1 TO 4: FOR N = 1 TO 2
130 ON X GOTO 140,150,160,170
140 READ D$(N): GOTO 180
150 READ E$(N): GOTO 180
160 READ F$(N): GOTO 180
170 READ G$(N): GOTO 180
180 NEXT N,X
190 FOR N = 1 TO 11
200 READ H$(N)
210 H$(N) = "TOO " + H$(N)
220 NEXT N
230 DL = 4000
240 FOR CY = 1 TO 5
250 GOSUB 630
260 DL = DL - 100
270 FOR T = 1 TO DL
280 NEXT T,CY
290 GOSUB 970
300 FOR CY = 1 TO 10
310 GOSUB 630: GOSUB 550
320 DL = DL - 200
330 FOR T = 1 TO DL
340 NEXT T,CY
350 GOSUB 970
360 FOR CY = 1 TO 5
370 FOR X = 1 TO 2
380 D$(X) = H$(INT(11 * RND(1)) + 1)
390 NEXT X
400 GOSUB 630: GOSUB 550
410 DL = DL - 300
420 FOR T = 1 TO DL
430 NEXT T,CY
440 DL = DL - 500
450 GOSUB 970
460 BX = BX + 1
470 IF BX < 2 THEN 240
```

```

480 FOR BX = 1 TO 4
490 CALL - 198: GOSUB 970
500 NEXT BX
510 FLASH : PRINT "ARRGH! I'M DEAD"
520 NORMAL : END
530 GOSUB 970
540 GOTO 240
550 FOR N = 1 TO 5
560 PRINT C$(N);
570 X = INT (2 * RND (1)) + 1
580 Y = INT (11 * RND (1)) + 1
590 HTAB 17: PRINT E$(X);
600 HTAB 28: PRINT H$(Y)
610 NEXT N
620 RETURN
630 TEXT : HOME : PRINT M$
640 VTAB 6
650 FOR N = 1 TO 5
660 X = INT (2 * RND (1)) + 1
670 Y = 2: IF X = 2 THEN Y = INT (2 * RND (1)) + 1
680 PRINT A$(N);
690 NORMAL
700 IF X = 1 THEN INVERSE
710 HTAB 17: PRINT D$(X);
720 NORMAL
730 IF X = 2 AND Y = 2 THEN FLASH
740 HTAB 28: PRINT E$(Y)
750 NORMAL
760 NEXT N
770 FOR N = 1 TO 5
780 X = INT (2 * RND (1)) + 1
790 Y = 2: IF X = 1 THEN Y = INT (2 * RND (1)) + 1
800 PRINT B$(N);
810 NORMAL
820 IF X = 1 THEN INVERSE
830 HTAB 17: PRINT F$(X);
840 NORMAL
850 IF X = 1 AND Y = 2 THEN CALL - 198: FLASH
860 HTAB 28: PRINT G$(Y)
870 NORMAL
880 NEXT N
890 RETURN
900 DATA FRONT DOOR,BACK DOOR,BEDROOM WINDOW,KITCHEN WINDOW
910 DATA GARAGE DOOR,DISHWASHER,CLOTHES WASHER,CLOTHES DRYER
920 DATA FURNACE,AIR CONDITIONER,TOILET,TELEPHONE
930 DATA KITCHEN SINK,CHRISTMAS TREE,FAMILY DOG
940 DATA OPEN,CLOSED,LOCKED,UNLOCKED,ON,OFF,RUNNING
950 DATA NOT RUNNING,OK,HOT,COLD,HIGH,LOW,WET,DRY
960 DATA QUIET,NOISY,SHALLOW,DEEP
970 POKE - 16304,0: POKE - 16302,0
980 FOR F = 1 TO 10
990 POKE - 16297,0
1000 FOR G = 0 TO 10
1010 X = PEEK ( - 16336)
1020 NEXT G
1030 POKE - 16298,0
1040 NEXT F
1050 TEXT : RETURN

```

Program 70 SCISSORS-PAPER-STONE

Cut! Cover! Break! We must protect our children from engaging in games that even simulate such violence!

—Editorial in a newspaper dated January 4, 1823

```
10 REM ** PAPER-SCISSORS-STONE **
20 REM
30 FOR K = 1 TO 10:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "SCISSORS-PAPER-STONE" + CHR$(13)
50 FOR K = 1 TO 40:Y$ = Y$ + "***": NEXT K
60 M$ = M$ + Y$
70 FOR N = 1 TO 3: READ D$:C$(N) = D$: NEXT N
80 FOR N = 1 TO 4: READ D$:R$(N) = D$: NEXT N
90 CC = 0
100 TEXT : HOME : PRINT M$
110 PRINT "CHOOSE A MATERIAL (1,2,OR 3):"
120 PRINT
130 FOR N = 1 TO 3
140 PRINT TAB( 5)N"--C$(N)
150 NEXT N
160 VTAB 12
170 GET K$: IF K$ < "1" OR K$ > "3" THEN 170
180 PN = VAL (K$)
190 SN = INT (3 * RND (1)) + 1
200 HTAB 1: VTAB 12
210 PRINT Y$
220 PRINT "YOU PICKED "C$(PN)
230 PRINT "THE COMPUTER PICKS "C$(SN)
240 PRINT : FOR T = 1 TO 1000: NEXT T
250 ON SN GOTO 260,290,320
260 IF PN = 1 THEN PRINT R$(1): GOTO 370
270 IF PN = 2 THEN PRINT R$(3);: GOTO 350
280 IF PN = 3 THEN PRINT R$(2);: GOTO 360
290 IF PN = 1 THEN PRINT R$(3);: GOTO 360
300 IF PN = 2 THEN PRINT R$(1): GOTO 370
310 IF PN = 3 THEN PRINT R$(4);: GOTO 350
320 IF PN = 1 THEN PRINT R$(2);: GOTO 350
330 IF PN = 2 THEN PRINT R$(4);: GOTO 360
340 IF PN = 3 THEN PRINT R$(1): GOTO 370
350 PRINT " - YOU WIN.":PC = PC + 1: GOTO 370
360 PRINT " - COMPUTER WINS.":CC = CC + 1
370 VTAB 21: PRINT "STRIKE THE SPACE BAR TO DO AGAIN"
380 PRINT "(OR THE X KEY TO END THE GAME) ...";
390 GET K$
400 IF K$ = "X" THEN 430
410 IF K$ = CHR$(32) THEN 100
420 GOTO 390
430 HOME : PRINT M$: PRINT
440 PRINT "YOU WON "PC" TIME";
450 IF PC < > 1 THEN PRINT "S";
460 PRINT : PRINT "THE COMPUTER WON "CC" TIME";
470 IF CC < > 1 THEN PRINT "S"
```

```
480  END
490  DATA  PAPER,SCISSORS,STONE
500  DATA  TIE,PAPER COVERS STONE
510  DATA  SCISSORS CUT PAPER,STONE SMASHES SCISSORS
```

Program 71 HELP-HELP

Facts require explanation; truth defies it.

—Anonymous

User's Note: It's up to you to decide whether this seemingly innocent program requires explanation or defies it.

```
10 REM  ** HELP,HELP **
20 REM
30 FOR K = 1 TO 18:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "HELP" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "***": NEXT K
60 HOME : PRINT M$
70 SPEED= 80
80 FOR K = 1 TO 66
90 READ L: PRINT CHR$ (L);
100 NEXT K
110 SPEED= 255: VTAB 21: END
120 DATA 72,69,76,80,44,32,72,69,76,80,33,33
130 DATA 32,73,39,77,32,65,32,80,82,73,83,79,78
140 DATA 69,82,32,73,78,32,65,32,80,73,67
150 DATA 84,85,82,69,45,84,85,66,69,32,70,65,67
160 DATA 84,79,82,89,46,32,76,69,84,32,77,69
170 DATA 32,79,85,84,33
```


Program 72 WUMPUS

Stand still, you wascle wabbit!

—Elmer Fudd

```
10 REM ** WUMPUS **
20 REM
30 FOR N = 1 TO 17:X$ = X$ + CHR$ (32): NEXT N
40 FOR N = 1 TO 40:Y$ = Y$ + " ": NEXT N
50 M$ = X$ + "WUMPUS" + CHR$ (13) + Y$
60 HOME : PRINT M$
70 PRINT "WUMPUS IS A HUNTING GAME WHEREBY YOU"
80 PRINT "ATTEMPT TO CAPTURE A STRANGE SORT OF"
90 PRINT "BEAST -- NAMELY, A WUMPUS."
100 PRINT : PRINT "YOU HAVE A HIGH-TECH RANGEFINDER TO"
110 PRINT "DETERMINE HOW FAR AWAY THE WUMPUS IS."
120 PRINT "YOU HAVE TO USE YOUR HUNTERS' INSTINCT,"
130 PRINT "HOWEVER, TO RECKON THE DIRECTION."
140 PRINT : PRINT "CATCH THE WUMPUS -- IF YOU CAN."
150 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 N = 0
180 WX = INT (100 * RND (1)) - 50
190 WY = INT (100 * RND (1)) - 50
200 PX = 0:PY = 0
210 HOME : PRINT M$: VTAB 4
220 DI = SQR ((WX - PX) * (WX - PX) + (WY - PY) * (WY - PY))
230 DI = INT (DI)
240 IF DI > 1 THEN 340
250 HOME : PRINT M$: VTAB 4
260 M1$ = "YOU HAVE CAPTURED THE WUMPUS."
270 FLASH : PRINT M1$
280 FOR XN = 1 TO 4: CALL - 198: NEXT XN
290 FOR T = 1 TO 500: NEXT T
300 NORMAL : HOME : PRINT M$: PRINT M1$
310 PRINT : PRINT "YOU DID IT IN "N" MOVE";
320 IF N < > 1 THEN PRINT "S."
330 GOTO 520
340 PRINT "YOU ARE NOW "DI" MILES FROM THE WUMPUS."
350 PRINT : PRINT "HOW FAR WOULD YOU LIKE TO TRAVEL";
360 INPUT TD
370 TD = INT (ABS (DT))
380 PRINT : PRINT "WHICH DIRECTION (N,S,E,W)?";
390 CH = PEEK (36):CV = PEEK (37)
400 HTAB 1: VTAB 21
410 PRINT "STRIKE THE X KEY TO GIVE UP"
420 HTAB CH + 1: VTAB CV + 1
430 GET D$
440 IF D$ = "N" THEN PY = PY + DI: GOTO 500
450 IF D$ = "S" THEN PY = PY - DI: GOTO 500
460 IF D$ = "E" THEN PX = PX + DI: GOTO 500
470 IF D$ = "W" THEN PX = PX - DI: GOTO 500
480 IF D$ = "X" THEN 570
```

```
490 GOTO 420
500 N = N + 1
510 GOTO 210
520 VTAB 21: PRINT "STRIKE THE SPACE BAR TO PLAY AGAIN
530 PRINT "(OR THE X KEY TO END THE PROGRAM)";
540 GET K$
550 IF ASC (K$) = 32 THEN 170
560 IF K$ < > "X" THEN 540
570 HOME : END
```

Program 73 SUPER WUMPUS

Eh-h-h. Catch me if you can!

—Bugs Bunny

```
10 REM ** SUPER WUMPUS **
20 REM
30 FOR N = 1 TO 14: X$ = X$ + CHR$ (32): NEXT N
40 FOR N = 1 TO 40: Y$ = Y$ + ":" : NEXT N
50 M$ = X$ + "SUPER WUMPUS" + CHR$ (13) + Y$
60 HOME : PRINT M$
70 PRINT "WUMPUS IS A HUNTING GAME WHEREBY YOU"
80 PRINT "ATTEMPT TO CAPTURE A STRANGE SORT OF"
90 PRINT "BEAST -- NAMELY, A WUMPUS."
100 PRINT : PRINT "YOU HAVE A HIGH-TECH RANGEFINDER TO"
110 PRINT "DETERMINE HOW FAR AWAY THE WUMPUS IS."
120 PRINT "YOU HAVE TO USE YOUR HUNTERS' INSTINCT,"
130 PRINT "HOWEVER, TO RECKON THE DIRECTION."
140 PRINT "NOTICE -- SUPER WUMPUS IS A LITTLE "
150 PRINT "HARDER TO CATCH THAN THE OTHER WUMPUS"
160 PRINT "BECAUSE HE MOVES AROUND IN HIS WORLD!"
170 PRINT : PRINT "CATCH THE SUPER WUMPUS -- IF YOU CAN."
180 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
190 GET K$
200 N = 0
210 WX = INT (100 * RND (1)) - 50
220 WY = INT (100 * RND (1)) - 50
230 PX = 0: PY = 0
240 HOME : PRINT M$: VTAB 4
250 DI = SQR ((WX - PX) * (WX - PX) + (WY - PY) * (WY - PY))
260 DI = INT (DI)
270 IF DI > 1 THEN 370
280 HOME : PRINT M$: VTAB 4
290 M1$ = "YOU HAVE CAPTURED THE WUMPUS."
300 FLASH : PRINT M1$
310 FOR NX = 1 TO 4: CALL - 198: NEXT N
320 FOR T = 1 TO 500: NEXT T
330 NORMAL : HOME : PRINT M$: PRINT M1$
340 PRINT : PRINT "YOU DID IT IN "N" MOVE";
350 IF N > 1 THEN PRINT "S."
360 GOTO 550
370 PRINT "YOU ARE NOW "DI" MILES FROM THE WUMPUS."
380 PRINT : PRINT "HOW FAR WOULD YOU LIKE TO TRAVEL";
390 INPUT TD
400 TD = INT (ABS (TD))
410 PRINT : PRINT "WHICH DIRECTION (N,S,E,W)?";
420 CH = PEEK (36): CV = PEEK (37)
430 HTAB 1: VTAB 21
440 PRINT "STRIKE THE X KEY TO GIVE UP"
450 HTAB CH + 1: VTAB CV + 1
460 GET D$
470 IF D$ = "N" THEN PY = PY + DI: GOTO 530
480 IF D$ = "S" THEN PY = PY - DI: GOTO 530
490 IF D$ = "E" THEN PX = PX + DI: GOTO 530
```

```
500 IF D$ = "W" THEN PX = PX - DI: GOTO 530
510 IF D$ = "X" THEN 600
520 GOTO 450
530 N = N + 1
540 GOTO 210
550 VTAB 21: PRINT "STRIKE THE SPACE BAR TO PLAY AGAIN"
560 PRINT "(OR THE X KEY TO END THE PROGRAM)";
570 GET K$
580 IF ASC (K$) = 32 THEN 200
590 IF K$ < > "X" THEN 570
600 HOME : END
```

Program 74 CROSS THE RIVER

There's more than one way to skin a cat, mash a spider, and spit in the river; and you only gotta be smart to do two of 'em.

—From *Forgotten Lore of the Mississippi*

```
10 REM ** RIVER CROSSING **
20 REM
30 FOR K = 1 TO 13:M$ = M$ + CHR$(32)
40 M$ = M$ + "RIVER CROSSING" + CHR$(13)
50 FOR K = 1 TO 40:Y$ = Y$ + " ": NEXT K
60 M$ = M$ + Y$
70 FOR N = 1 TO 7: READ D$(N): NEXT N
80 TEXT : HOME : PRINT M$
90 PRINT "CONSIDER THIS PROBLEM IN LOGIC:": PRINT
100 PRINT "YOU ARE ON THE NORTH BANK OF A RIVER."
110 PRINT "YOU HAVE A BOAT,WOLF,HEAD OF CABBAGE"
120 PRINT "AND A GOAT WITH YOU. WHEN YOU AREN'T"
130 PRINT "AROUND, THE GOAT WILL EAT THE CABBAGE"
140 PRINT "AND THE WOLF WILL EAT THE GOAT."
150 PRINT
160 PRINT "YOUR TASK IS TO USE THE BOAT TO CARRY"
170 PRINT "THE WOLF,CABBAGE AND GOAT TO THE"
180 PRINT "SOUTH BANK -- CARRYING JUST ONE (OR"
190 PRINT "NONE) WITH YOU ON EACH CROSSING."
200 PRINT : PRINT "LET ME KNOW IF YOU CAN DO IT IN LESS"
210 PRINT "THAN 7 CROSSINGS."
220 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
230 GET K$
240 GT = 1:HC = 1:WF = 1:LF = 1:NC = 0
250 FB$ = D$(1)
260 FB = 1
270 HOME : PRINT M$
280 IF FB = 1 THEN FB$ = D$(1)
290 IF FB = 2 THEN FB$ = D$(2)
300 VTAB 4
310 PRINT "ITEMS ON THE NORTH BANK:": PRINT
320 IF WF = 1 THEN PRINT TAB(5)D$(3)
330 IF HC = 1 THEN PRINT TAB(5)D$(4)
340 IF GT = 1 THEN PRINT TAB(5)D$(5)
350 PRINT : PRINT "ITEMS ON THE SOUTH BANK:": PRINT
360 IF WF = 2 THEN PRINT TAB(5)D$(3)
370 IF HC = 2 THEN PRINT TAB(5)D$(4)
380 IF GT = 2 THEN PRINT TAB(5)D$(5)
390 HTAB 1: VTAB 16: INVERSE
400 PRINT "YOU ARE ON THE "FB$" BANK."
410 NORMAL
420 VTAB 18: PRINT Y$
430 ON LF GOTO 440,670,680,690
440 PRINT "DO YOU WANT TO TAKE THE (G)OAT, (W)OLF,"
450 PRINT "THE (C)ABBAGE, OR GO (A)LONE?";
460 GET K$
470 HTAB 1: VTAB 15: PRINT SPC(39)
```

```

480 NC = NC + 1
490 IF K$ < > "G" THEN 530
500 IF GT < > FB THEN 750
510 GT = GT + 1: IF GT > 2 THEN GT = 1
520 GOTO 620
530 IF K$ < > "W" THEN 570
540 IF WF < > FB THEN 750
550 WF = WF + 1: IF WF > 2 THEN WF = 1
560 GOTO 620
570 IF K$ < > "C" THEN 610
580 IF HC < > FB THEN 750
590 HC = HC + 1: IF HC > 2 THEN HC = 1
600 GOTO 620
610 IF K$ < > "A" THEN 270
620 FB = FB + 1: IF FB > 2 THEN FB = 1
630 IF HC = 2 AND WF = 2 AND GT = 2 THEN LF = 2
640 IF GT = WF AND FB < > GT THEN LF = 3
650 IF GT = HC AND FB < > GT THEN LF = 4
660 GOTO 270
670 PRINT "YOU DID IT IN "NC" CROSSINGS!": GOTO 700
680 PRINT D$(6): GOTO 700
690 PRINT D$(7)
700 CALL ( - 198): CALL ( - 198)
710 PRINT : PRINT "WOULD YOU LIKE TO PLAY AGAIN (Y/N)?";
720 GET K$: IF K$ = "Y" THEN 240
730 IF K$ = "N" THEN HOME : END
740 GOTO 720
750 HTAB 1: VTAB 15: FLASH
760 PRINT "THAT'S NOT POSSIBLE";
770 NORMAL : PRINT SPC( 39 - POS (0))
780 GOTO 390
790 DATA NORTH,SOUTH,WOLF,CABBAGE,GOAT
800 DATA THE WOLF ATE THE GOAT.
810 DATA THE GOAT ATE THE CABBAGE.

```

Program 75 FOOTBALL

Turn out the lights, the party's over . . .

—ABC's Don Meredith (variation of an older theme)

```
10 REM ** FOOTBALL **
20 REM
30 FOR K = 1 TO 16:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "FOOTBALL" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 READ S$(1),S$(2)
70 TEXT : HOME : PRINT M$
80 PRINT "YOU ARE THE HEAD COACH OF A PROFESSION-"
90 PRINT "AL FOOTBALL TEAM. YOUR OPPONENT'S"
100 PRINT "COACH IS YOUR COMPUTER.": PRINT
110 PRINT "WHEN EITHER OF YOU HAVE THE BALL, YOU"
120 PRINT "HAVE THE OPTIONS OF RUNNING, PASSING"
130 PRINT "OR KICKING BALL. (A KICK MAY BE A PUNT"
140 PRINT "OR FIELD GOAL ATTEMPT."
150 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN THE GAME ...";
160 GET K$
170 HOME : PRINT M$
180 FOR K = 1 TO 5: CALL ( - 198): NEXT K
190 PRINT "AND NOW FOR THE TOSS OF THE COIN:": PRINT
200 PRINT "YOU CALL IT -- (H)EADS OR (T)AILS ";
210 GET K$
220 IF NOT (K$ = "H" OR K$ = "T") THEN 210
230 IF RND (1) < = .5 THEN 260
240 HTAB 1: VTAB 8
250 PRINT "YOU WON THE TOSS.": GOTO 320
260 HTAB 1: VTAB 8
270 PRINT "THE COMPUTER WON THE TOSS, AND"
280 PRINT "ELECTS TO RECEIVE."
290 FL = 1
300 FOR T = 1 TO 2500: NEXT T
310 GOTO 360
320 PRINT "DO YOU WANT TO (K)ICK OR (R)ECEIVE? ";
330 FL = 1
340 GET K$: IF K$ = "R" THEN FL = 0: GOTO 360
350 IF K$ < > "K" THEN 340
360 PS = 0:CS = 0:DN = 1:YD = 20
370 YG = 10:YL = 20
380 TL = 60
390 IF TL < 0 THEN 1030
400 FOR DN = 1 TO 4
410 TL = TL - 1
420 HOME : NORMAL : PRINT M$
430 PRINT SPC( 12)"SCOREBOARD"
440 PRINT
450 PRINT "YOU HAVE "PS" PTS COMPUTER HAS "CS" PTS"
460 PRINT
470 PRINT "DOWN="DN" YDS TO GO="YG
```

```

480 PRINT
490 IF FL = 1 THEN 530
500 IF YL > 50 THEN R = 100 - YL: PRINT S$(1) SPC( 1)R" YARDLINE"
510 IF YL < = 50 THEN PRINT S$(2) SPC( 1)YL" YARDLINE"
520 GOTO 550
530 IF YL > 50 THEN R = 100 - YL: PRINT S$(2) SPC( 1)R" YARDLINE"
540 IF YL < = 50 THEN PRINT S$(1) SPC( 1)YL" YARDLINE"
550 PRINT
560 PRINT "TIME REMAINING="TL" MINUTES"
570 IF TL < = 0 THEN GOTO 1030
580 PRINT
590 IF FL = 0 THEN PRINT "YOU HAVE THE BALL"
600 IF FL = 1 THEN PRINT "THE COMPUTER HAS THE BALL": GOTO 790
610 PRINT : INVERSE : PRINT "DO YOU WISH TO (P)ASS, (R)UN OR (K)ICK"
620 NORMAL
630 GET K$
640 IF K$ = "P" THEN MY = INT ( RND (1) * 40 - 15): GOTO 700
650 IF K$ = "R" THEN MY = INT ( RND (1) * 30 - 10): GOTO 700
660 IF K$ < > "K" THEN 630
670 MY = INT ( RND (1) * 20 + 40)
680 YL = YL + MY: IF YL > 100 THEN 860
690 GOTO 1010
700 YL = YL + MY: YG = YG - MY
710 IF YL > 100 THEN 930
720 IF YG < = 0 THEN 770
730 IF YL < 0 THEN 1170
740 NEXT DN: FL = FL + 1
750 YL = 100 - YL
760 IF FL = 2 THEN FL = 0
770 YG = 10: DN = 1
780 GOTO 390
790 IF DN < 4 THEN 840
800 CALL ( - 198): CALL ( - 198)
810 PRINT : PRINT "*** THE COMPUTER TRIES A KICK ***"
820 FOR T = 1 TO 700: NEXT T
830 K$ = "K": GOTO 650
840 FOR T = 1 TO 2000: NEXT T
850 K$ = "R": GOTO 650
860 HOME : PRINT M$: PRINT
870 FOR K = 1 TO 3: CALL ( - 198): NEXT K
880 PRINT : PRINT "THE KICKER SCORED A FIELD GOAL"
890 IF FL = 0 THEN PS = PS + 3
900 IF FL = 1 THEN CS = CS + 3
910 FOR T = 1 TO 1000: NEXT T
920 GOTO 1010
930 HOME : PRINT M$: PRINT
940 FOR K = 1 TO 7: CALL ( - 198): NEXT K
950 FLASH
960 PRINT " ***TOUCH-DOWN***"
970 NORMAL
980 IF FL = 0 THEN PS = PS + 7
990 IF FL = 1 THEN CS = CS + 7
1000 FOR T = 1 TO 1000: NEXT T
1010 FL = FL + 1: YL = 20
1020 GOTO 760
1030 HOME : PRINT M$

```



```

1040 FOR T = 1 TO 300: NEXT T
1050 CALL ( - 198): CALL ( - 198)
1060 PRINT : PRINT " *** THE GAME IS OVER ***"
1070 PRINT : PRINT "THE FINAL SCORE IS:"
1080 PRINT : PRINT "COMPUTER-"CS
1090 PRINT : PRINT "YOU-"PS
1100 IF CS > PS THEN PRINT : FLASH : PRINT "COMPUTER WINS"
1110 IF CS < PS THEN PRINT : FLASH : PRINT "YOU WIN"
1120 IF CS = PS THEN PRINT "ITS A TIE GAME"
1130 PRINT : NORMAL : PRINT "DO YOU WISH TO PLAY AGAIN ..."
1140 GET K$: IF K$ = "Y" THEN 170
1150 IF K$ < > "Y" THEN 1140
1160 HOME : END
1170 HOME : PRINT M$: PRINT
1180 CALL - 198: CALL - 198
1190 PRINT "THE BALL IS DOWNED IN THE END ZONE ..."
1200 PRINT : FLASH : PRINT " * SAFETY *"
1210 IF FL = 0 THEN CS = CS + 2
1220 IF FL = 1 THEN PS = PS + 2
1230 FOR T = 1 TO 2000: NEXT T
1240 FL = FL + 1:YL = 20
1250 GOTO 760
1260 DATA THE BALL IS ON THE COMP'S
1270 DATA THE BALL IS ON YOUR

```

Program 76 SHELL GAME

If you can do this, you're pretty good.

—Overheard in a bar in Tiajuana

```
10 REM ** SHELL GAME **
20 REM
30 FOR K = 1 TO 200: B$ = B$ + CHR$ (32): NEXT K
40 M$ = LEFT$ (B$,15)
50 M$ = M$ + "SHELL GAME" + CHR$ (13)
60 FOR K = 1 TO 40: L$ = L$ + "***": NEXT K
70 M$ = M$ + L$
80 TEXT : HOME : PRINT M$
90 PRINT "THIS IS A COMPUTERIZED VERSION OF THE"
100 PRINT "OLD SHELL GAME. IT OFTEN PROVES THAT"
110 PRINT "THE HAND IS QUICKER THAN THE EYE."
120 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
130 GET K$
140 RG = 0: WG = 0
150 HOME : PRINT M$
160 SN = INT ( RND (1) * 3) + 1
170 VTAB 7: PRINT "THE PEA IS UNDER THIS SHELL ..."
180 HTAB 15: VTAB 10: PRINT "O O O";
190 GOSUB 520
200 HTAB 1: VTAB 7: CALL - 868
210 PRINT "WATCH THE SHELLS ..."
220 GOSUB 560
230 HTAB 1: VTAB 13
240 PRINT "WHICH SHELL IS THE PEA UNDER (1-3)? ";
250 GET G$
260 IF G$ < "1" OR G$ > "3" THEN 250
270 G = ASC (G$) - 48
280 IF G < > SN THEN 330
290 FOR X = 1 TO 3: CALL - 198: NEXT X
300 PRINT : FLASH : PRINT " *** YOU'RE RIGHT ***"
310 RG = RG + 1
320 GOTO 370
330 PRINT : INVERSE
340 PRINT "SORRY, THE PEA IS UNDER "SN
350 WG = WG + 1
360 FOR X = 1 TO 2: CALL - 198: NEXT X
370 NORMAL
380 VTAB 21: PRINT "WOULD YOU LIKE TO PLAY AGAIN (Y/N)? "
390 GET K$: IF K$ = "Y" THEN 150
400 IF K$ < > "N" THEN 390
410 HOME : PRINT : PRINT M$;: INVERSE
420 PRINT B$;: PRINT B$: VTAB 5
430 PRINT SPC( 5)"YOU HAVE "RG" CORRECT GUESS";
440 IF RG < > 1 THEN PRINT "ES";
450 PRINT : PRINT SPC( 15)"AND"
460 PRINT SPC( 5)"YOU HAVE "WG" WRONG GUESS";
470 IF WG < > 1 THEN PRINT "ES";
```

```

480 NORMAL : HTAB 1: VTAB 14: PRINT L$
490 PRINT : PRINT
500 PRINT " HAVE A NICE DAY..."
510 VTAB 21: END
520 VTAB 10: HTAB 2 * INT ( RND (1) * 3) + 15
530 FLASH : PRINT "O";: NORMAL
540 FOR T = 1 TO 2000: NEXT T
550 RETURN
560 FOR N = 1 TO INT ( RND (1) * 15 + 15)
570 HTAB 17: VTAB 10: PRINT CHR$ (32);
580 HTAB 17: VTAB 9: PRINT "O";
590 H = RND (1)
600 IF H < .5 THEN GOSUB 640
610 IF H > .5 THEN GOSUB 770
620 NEXT N
630 RETURN
640 FOR K = 17 TO 21
650 HTAB K: VTAB 9: PRINT "O";
660 GOSUB 900
670 HTAB K: VTAB 9: PRINT CHR$ (32);
680 NEXT K
690 HTAB 21: VTAB 10: PRINT "O";
700 GOSUB 900
710 HTAB 18: VTAB 10
720 PRINT "O O ";
730 GOSUB 900
740 HTAB 17: VTAB 10
750 PRINT "O O ";
760 RETURN
770 FOR K = 17 TO 13 STEP - 1
780 HTAB K: VTAB 9: PRINT "O";
790 GOSUB 900
800 HTAB K: VTAB 9: PRINT CHR$ (32);
810 NEXT K
820 HTAB 13: VTAB 10: PRINT "O";
830 GOSUB 900
840 HTAB 13: VTAB 10
850 PRINT " O O ";
860 GOSUB 900
870 HTAB 14: VTAB 10
880 PRINT " O O ";
890 RETURN
900 FOR T = 1 TO 10: NEXT T
910 Z = PEEK ( - 16336)
920 RETURN

```

Program 77 FAIR SHELL GAME

He who gives, giveth. He who takes, taketh away.

—15th Century English proverb

The Shell Game in Program 76 is a perfectly honest one. This version is . . . well, not so honest. It sort of lets you win more than your fair share of shell games. When the computer asks you to enter your name, just remember to type one space before striking the space bar. The computer uses that space at the end of your name to identify you and load matters in your favor.

```
10 REM ** FAIR SHELL GAME **
20 REM
30 FOR K = 1 TO 160: B$ = B$ + CHR$(32): NEXT K
40 FOR K = 1 TO 15: M$ = M$ + " ": NEXT K
50 M$ = M$ + "SHELL GAME" + CHR$(13)
60 FOR K = 1 TO 40: L$ = L$ + "***": NEXT K
70 M$ = M$ + L$
80 TEXT : HOME : PRINT M$
90 PRINT "THIS IS A COMPUTERIZED VERSION OF THE"
100 PRINT "OLD SHELL GAME. IT OFTEN PROVES THAT"
110 PRINT "THE HAND IS QUICKER THAN THE EYE."
120 VTAB 16
130 PRINT "THIS ONE IS FOR TWO PLAYERS, AND IT"
140 PRINT "ENCOURAGES A BIT OF WAGERING ON THE"
150 PRINT "SIDE."
160 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
170 GET K$
180 RG = 0: WG = 0
190 HOME : PRINT M$: PRINT
200 FOR PF = 1 TO 2
210 PRINT "PLAYER "PF", ENTER YOUR FIRST NAME:"
220 INPUT N$(PF): N$(PF) = LEFT$(N$(PF), 20)
230 IF LEN(N$(PF)) > 1 THEN 250
240 PRINT "QUIT FOOLIN' AROUND.": GOTO 220
250 PRINT : PRINT
260 NEXT PF
270 HOME : PRINT M$
280 PF = PF + 1: IF PF > 2 THEN PF = 1
290 SN = INT ( RND (1) * 3) + 1
300 VTAB 7: PRINT " HERE IS THE PEA ..."
310 HTAB 15: VTAB 10: PRINT "O O O";
320 GOSUB 700
330 VTAB 15
340 PRINT N$(PF)", WHERE IS THE PEA (1-3)? ";
350 GET FG$
360 IF FG$ < "1" OR FG$ > "3" THEN 350
370 G$(PF) = FG$: PRINT FG$;
380 PRINT : PRINT
390 IF RIGHT$(N$(PF), 1) < > CHR$(32) THEN 410
400 IF INT (4 * RND (1)) > 1 THEN SN = VAL (G$(PF))
410 IF VAL (G$(PF)) = SN THEN 480
```

```

420 HOME : PRINT M$
430 PRINT "YOU WERE WRONG, "N$(PF)". "
440 PRINT "THE PEA WAS UNDER "SN". "
450 IF PF = 2 THEN 560
460 FOR T = 1 TO 1000: NEXT T
470 GOTO 270
480 RG(PF) = RG(PF) + 1
490 HOME : PRINT M$
500 VTAB 4
510 FLASH
520 PRINT N$(PF)", YOU GOT IT!!"
530 CALL - 198: CALL - 198
540 FOR T = 1 TO 1500: NEXT T
550 NORMAL : GOTO 560
560 VTAB 21: PRINT "YOU TWO WANT TO PLAY AGAIN (Y/N)? ";
570 GET K$: IF K$ = "Y" THEN 270
580 IF K$ < > "N" THEN 570
590 HOME : PRINT : PRINT M$;: INVERSE
600 PRINT B$;: PRINT B$: VTAB 5
610 FOR K = 1 TO 2: PRINT
620 PRINT N$(K)" HAD "RG(K)" CORRECT GUESS";
630 IF RG(K) < > 1 THEN PRINT "ES";
640 PRINT CHR$(46)
650 PRINT : PRINT : NEXT K
660 NORMAL : VTAB 12: PRINT L$
670 PRINT : PRINT
680 PRINT " HAVE A NICE DAY..."
690 END
700 VTAB 10: HTAB 2 * INT ( RND (1) * 3) + 15
710 FLASH : PRINT "O";: NORMAL
720 FOR T = 1 TO 2000: NEXT T
730 PRINT
740 VTAB 7: PRINT "NOW, WATCH THE SHELLS ..."
750 FOR N = 1 TO INT ( RND (1) * 15 + 15)
760 HTAB 17: VTAB 10: PRINT CHR$(32);
770 HTAB 17: VTAB 9: PRINT "O";
780 H = RND (1)
790 IF H < .5 THEN GOSUB 840
800 IF H > .5 THEN GOSUB 970
810 NEXT N
820 PRINT
830 RETURN
840 FOR K = 17 TO 21
850 HTAB K: VTAB 9: PRINT "O";
860 GOSUB 1100
870 HTAB K: VTAB 9: PRINT CHR$(32);
880 NEXT K
890 HTAB 21: VTAB 10: PRINT "O";
900 GOSUB 1100
910 HTAB 18: VTAB 10
920 PRINT "O O ";
930 GOSUB 1100
940 HTAB 17: VTAB 10
950 PRINT "O O ";
960 RETURN
970 FOR K = 17 TO 13 STEP - 1

```

```
980 HTAB K: VTAB 9: PRINT "O";
990 GOSUB 1100
1000 HTAB K: VTAB 9: PRINT CHR$ (32);
1010 NEXT K
1020 HTAB 13: VTAB 10: PRINT "O";
1030 GOSUB 1100
1040 HTAB 13: VTAB 10
1050 PRINT " O O";
1060 GOSUB 1100
1070 HTAB 14: VTAB 10
1080 PRINT " O O";
1090 RETURN
1100 FOR T = 1 TO 10: NEXT T
1110 Z = PEEK ( - 16336)
1120 RETURN
```

Program 78 RUSSIAN ROULETTE

Heck, if you can count to six you can play Russian Roulette

—From the epitaph of E. Ross Bennington

```
10 REM    ** RUSSIAN ROULETTE **
20 REM
30 M$ = ""
40 FOR K = 1 TO 11:M$ = M$ + CHR$(32): NEXT K
50 M$ = M$ + "RUSSIAN ROULETTE" + CHR$(13)
60 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
70 TEXT : HOME : PRINT M$
80 PRINT "THIS IS A GAME FOR ONE TO FIVE PLAYERS."
90 PRINT : PRINT "THE EQUIPMENT CONSISTS OF THE FOLLOWING"
100 PRINT "ITEMS:": PRINT
110 PRINT TAB(3)"1 EA. REVOLVER (SOMEWHERE INSIDE"
120 PRINT TAB(9)"THIS COMPUTER). "
130 PRINT
140 PRINT TAB(3)"1 EA. LIVE BULLET (IN ONE OF THE"
150 PRINT TAB(9)"CHAMBERS IN THE REVOLVER IN"
160 PRINT TAB(9)"THE COMPUTER). "
170 PRINT : PRINT "THE PLAYERS EACH TAKE A TURN PULLING"
180 PRINT "THE TRIGGER. IF THE GUN JUST MAKES A"
190 PRINT "CLICKING SOUND, THAT PLAYER SURVIVES."
200 PRINT "BUT IF THERE IS NO CLICKING SOUND ..."
210 PRINT "WELL, ENOUGH ABOUT THAT."
220 PRINT : PRINT "STRIKE ANY KEY TO CONTINUE ...";
230 GET K$: HOME : PRINT M$
240 PRINT "HOW MANY PLAYERS ARE STARTING THIS"
250 PRINT "ROUND (1-5)? ";
260 INPUT " "; NP: IF NP > 0 AND NP < 6 THEN 280
270 PRINT "1 THROUGH 5, PLEASE ...": GOTO 260
280 HOME : PRINT M$
290 FOR J = 1 TO NP
300 PRINT : PRINT "ENTER THE NAME OF PLAYER #J":
310 PRINT : HTAB 5
320 INPUT " "; NA$(J)
330 IF LEN(NA$(J)) > 0 AND LEN(NA$(J)) < 20 THEN 350
340 PRINT "QUIT FOOLIN' AROUND!": GOTO 300
350 NEXT J
360 Q = INT ( RND (1) * 6 + 1)
370 FOR N = 1 TO NP
380 IF RIGHT$(NA$(N),1) = CHR$(32) THEN Q = N
390 NEXT N
400 FOR J = 1 TO NP
410 HOME : PRINT M$
420 PRINT NA$(J)":": PRINT
430 PRINT "PULL THE TRIGGER OR STRIKE ANY KEY ..."
440 GET K$
450 FOR T = 1 TO 250: NEXT T
460 IF Q = J THEN 580
470 PRINT : PRINT "*** CLICK ***"
480 CLK = PEEK ( - 16336):CLK = PEEK ( - 16336)
```

```

490 FOR T = 1 TO 2000: NEXT T
500 NEXT J
510 VTAB 19: PRINT "ALL PLAYERS SURVIVED THIS ROUND."
520 PRINT
530 PRINT "ARE YOU WILLING TO PUSH YOUR LUCK AND"
540 PRINT "TRY ANOTHER ROUND (Y/N)?";
550 GET K$
560 IF K$ = "N" THEN HOME : END
570 GOTO 360
580 HOME : PRINT M$: PRINT
590 PRINT "**** BANG ****"
600 FOR T = 1 TO 5: CALL ( - 198): NEXT T
610 PRINT : PRINT "DEAR "NA$(J)": "
620 PRINT : PRINT TAB( 5) "YOU OBVIOUSLY HAVE NO DESIRE"
630 PRINT TAB( 5) "TO PLAY AGAIN."
640 PRINT : PRINT "GOOD BYE ..."
650 END

```


Program 79 FAIR RUSSIAN ROULETTE

The measure of a man's real character is what he would do if he knew he never would be found out.

—Thomas Babington Macaulay

I hate to say what happens to a player when you discretely insert a space at the end of his or her name. Tsk-tsk. Shame on you.

```
10 REM ** RUSSIAN ROULETTE **
20 REM
30 FOR K = 1 TO 11:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "RUSSIAN ROULETTE" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "THIS IS A GAME FOR ONE TO FIVE PLAYERS."
80 PRINT : PRINT "THE EQUIPMENT CONSISTS OF THE FOLLOWING"
90 PRINT "ITEMS:": PRINT
100 PRINT TAB( 3)"1 EA. REVOLVER (SOMEWHERE INSIDE"
110 PRINT TAB( 9)"THIS COMPUTER). "
120 PRINT
130 PRINT TAB( 3)"1 EA. LIVE BULLET (IN ONE OF THE"
140 PRINT TAB( 9)"CHAMBERS IN THE REVOLVER IN"
150 PRINT TAB( 9)"THE COMPUTER). "
160 PRINT : PRINT "THE PLAYERS EACH TAKE A TURN PULLING"
170 PRINT "THE TRIGGER. IF THE GUN JUST MAKES A"
180 PRINT "CLICKING SOUND, THAT PLAYER SURVIVES."
190 PRINT "BUT IF THERE IS NO CLICKING SOUND ..."
200 PRINT "WELL, ENOUGH ABOUT THAT."
210 PRINT : PRINT "STRIKE ANY KEY TO CONTINUE ...";
220 GET K$: HOME : PRINT M$
230 PRINT "HOW MANY PLAYERS ARE STARTING THIS"
240 PRINT "ROUND (1-5)? ";
250 INPUT " ";NP: IF NP > 0 AND NP < 6 THEN 270
260 PRINT "1 THROUGH 5, PLEASE ...";: GOTO 250
270 HOME : PRINT M$
280 FOR J = 1 TO NP
290 PRINT : PRINT "ENTER THE NAME OF PLAYER #\"J\": "
300 PRINT : HTAB 5
310 INPUT " ";NA$(J)
320 IF LEN (NA$(J)) > 0 AND LEN (NA$(J)) < 20 THEN 340
330 PRINT "QUIT FOOLIN' AROUND!": GOTO 290
340 NEXT J
350 Q = INT ( RND (1) * 6 + 1)
360 FOR N = 1 TO NP
370 IF RIGHT$ (NA$(N),1) = CHR$ (32) THEN Q = N
380 NEXT N
390 FOR J = 1 TO NP
400 HOME : PRINT M$
410 PRINT NA$(J)":": PRINT
420 PRINT "PULL THE TRIGGER OR STRIKE ANY KEY ..."
430 GET K$
```

```

440 FOR T = 1 TO 250: NEXT T
450 IF Q = J THEN 570
460 PRINT : PRINT "**** CLICK ****"
470 CLK = PEEK ( - 16336):CLK = PEEK ( - 16336)
480 FOR T = 1 TO 2000: NEXT T
490 NEXT J
500 VTAB 19: PRINT "ALL PLAYERS SURVIVED THIS ROUND."
510 PRINT
520 PRINT "ARE YOU WILLING TO PUSH YOUR LUCK AND"
530 PRINT "TRY ANOTHER ROUND (Y/N)?";
540 GET K$
550 IF K$ = "N" THEN HOME : END
560 GOTO 350
570 HOME : PRINT M$: PRINT
580 PRINT "**** BANG ****"
590 FOR T = 1 TO 5: CALL ( - 198): NEXT T
600 PRINT : PRINT "DEAR "NA$(J)": "
610 PRINT : PRINT TAB( 5)"YOU OBVIOUSLY HAVE NO DESIRE"
620 PRINT TAB( 5)"TO PLAY AGAIN."
630 PRINT : PRINT "GOOD BYE ..."
640 END

```

Program 80 SIMPLE SIMON SEQUENCE

1-2-2-4-4...@\$\$@. 4-2-2-1-3...*&^ @! 1-1-2-4...

—Overheard in countless homes on Christmas day, 1980

```
10 REM ** SIMPLE SIMON **
20 REM
30 DIM A(100)
40 FOR K = 1 TO 14:M$ = M$ + CHR$(32): NEXT K
50 M$ = M$ + "SIMPLE SIMON" + CHR$(13)
60 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
70 TEXT : HOME : PRINT M$
80 PRINT "DO YOU THINK YOU CAN REMEMBER A SE-"
90 PRINT "QUENCE OF NUMBERS? CAN YOU DO IT IF"
100 PRINT "THE SEQUENCE GROWS LONGER WITH EACH"
110 PRINT "ATTEMPT?"
120 PRINT : PRINT "YOUR JOB HERE IS TO REPRODUCE THE SE-"
130 PRINT "QUENCE AFTER THE COMPUTER SHOWS IT TO"
140 PRINT "YOU."
150 PRINT : PRINT "WHAT'S THE LONGEST SEQUENCE YOU THINK"
160 PRINT "YOU CAN DO (2-100)? ";
170 INPUT " ";SL
180 IF SL < 2 OR SL > 100 THEN PRINT "? ";: GOTO 170
190 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
200 GET K$
210 HOME : PRINT M$
220 GOSUB 470
230 FOR K = 1 TO SL
240 A(K) = INT ( RND (1) * 4 + 1)
250 FOR J = 1 TO K
260 INVERSE :HT = A(J) * 5 + 10
270 VTAB 12: HTAB HT + 1
280 PRINT SPC(1);A(J); SPC(1)
290 NORMAL
300 CALL - 198
310 FOR T = 1 TO 200: NEXT T
320 GOSUB 470
330 NEXT J
340 GOSUB 510
350 IF FL = 1 THEN 610
360 NEXT K
370 HOME : PRINT M$
380 FLASH
390 PRINT "*** YOU BEAT THE MACHINE ***"
400 NORMAL : PRINT "WITH A SEQUENCE OF "SL" NUMBERS."
410 VTAB 21: PRINT "TRY AGAIN (Y/N)? ";
420 FL = 0
430 GET K$
440 IF K$ = "Y" THEN HOME : PRINT M$: GOTO 150
```

```

450 IF K$ < > "N" THEN 430
460 END
470 FOR N = 1 TO 4
480 VTAB 12: HTAB 11 + 5 * N
490 PRINT SPC( 1);N; SPC( 1)
500 NEXT N: RETURN
510 FOR L = 1 TO K
520 GET K$
530 IF K$ > "4" OR K$ < "1" THEN 520
540 NK = ASC (K$) - 48
550 I(L) = NK
560 IF I(L) < > A(L) THEN FL = 1: RETURN
570 Q = I(L)
580 NEXT L
590 FOR T = 1 TO 700: NEXT T
600 RETURN
610 HOME : PRINT M$: PRINT
620 PRINT " *** YOU GOOFED ***"
630 PRINT : PRINT "YOU GOT "J - 2" KEYS CORRECT"
640 GOTO 410
650 END

```

Program 81 REACTION-TIME TESTER

Faster than a speeding bullet (Pow!—cheweeeeng).
More powerful than a locomotive (Chucka-chucka-chucka)!
Able to leap tall buildings at a single bound (Wissssh)!
Look! Up in the sky!
It's a bird!
It's a plane!
It's Su-u-u-u-per Ma-a-a-an!

—From Mutual Broadcasting's "Superman"

```
10 REM ** REACTION-TIME TESTER **
20 REM
30 FOR K = 1 TO 10:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "REACTION-TIME TESTER" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + "***": NEXT K
60 F = 0:SM = 0:R = 0
70 TEXT : HOME : PRINT M$
80 PRINT "STRIKE THE SPACE BAR WHEN THE ASTER-"
90 PRINT "ISKS (*) APPEAR."
100 VTAB 12
110 PRINT "WATCH FOR ASTERISKS ..."
120 CALL (-198): CALL (-198)
130 D = INT(RND(1) * 600 + 300)
140 POKE -16368,0
150 FOR T = 1 TO D
160 IF PEEK(-16384) > 128 THEN 440
170 NEXT T
180 R = 0
190 PRINT : PRINT "*****"
200 POKE -16368,0
210 FOR R = 1 TO 200
220 IF PEEK(-16384) > 128 THEN 250
230 NEXT R
240 PRINT : PRINT "YOU TOOK TOO LONG; FORGET IT": END
250 PRINT : PRINT
260 CALL (-198): CALL (-198)
270 R = INT(R * 100 / 85)
280 PRINT "YOUR REACTION TIME IS "R" HUNDREDTHS"
290 PRINT "OF A SECOND"
300 PRINT : PRINT "WOULD YOU LIKE TO TRY AGAIN (Y/N)?";
310 POKE -16368,0
320 F = F + 1:SM = SM + R
330 GET K$: IF K$ = "Y" THEN 70
340 IF K$ < > "N" THEN 330
350 HOME : PRINT M$: PRINT : PRINT
360 AV = INT(SM / F)
370 PRINT "YOUR AVERAGE SCORE IS "AV" HUNDREDTHS"
380 PRINT "OF A SECOND."
390 PRINT : PRINT
400 IF AV > 50 THEN PRINT "YOU NEED A LITTLE IMPROVEMENT"
410 IF AV < 25 THEN PRINT "THAT'S VERY GOOD"
```

```
420 IF AV > = 25 AND AV < = 50 THEN PRINT "NOT BAD"  
430 END  
440 PRINT "TOO SOON -- CALM DOWN": GOTO 130
```

Program 82 SPEECH WRITER

"What more can I say?"

—Overheard at a Toastmaster's convention

Say what you're going to say. Say it. Then say what you said. This program helps a lot.

```
10 REM ** SPEECH WRITER **
20 REM
30 H$ = "SPEECH WRITER" + CHR$ (13)
40 FOR K = 1 TO 40:H$ = H$ + "=": NEXT K
50 TEXT : HOME : PRINT H$
60 PRINT "ARE YOU MALE OR FEMALE (M/F)? ";
70 GET SX$
80 IF SX$ = "M" OR SX$ = "F" THEN 100
90 GOTO 70
100 PRINT SX$: PRINT
110 PRINT "ARE YOU MARRIED (Y/N)? ";
120 GET MS$
130 IF MS$ = "Y" OR MS$ = "N" THEN 150
140 GOTO 120
150 PRINT MS$: PRINT
160 PRINT "INDICATE WHAT TIME OF DAY THE SPEECH"
170 PRINT "WILL BE DELIVERED:"
180 PRINT : PRINT TAB( 5)"1 -- MORNING"
190 PRINT TAB( 5)"2 -- AFTERNOON"
200 PRINT TAB( 5)"3 -- EVENING"
210 GET TD$
220 IF TD$ > "3" OR TD$ < "1" THEN 210
230 IF TD$ = "1" THEN TD$ = "MORNING"
240 IF TD$ = "2" THEN TD$ = "AFTERNOON"
250 IF TD$ = "3" THEN TD$ = "EVENING"
260 IF SX$ = "M" AND MS$ = "Y" THEN Z$ = "WIFE"
270 IF SX$ = "M" AND MS$ = "N" THEN Z$ = "GIRLFRIEND"
280 IF SX$ = "F" AND MS$ = "Y" THEN Z$ = "HUSBAND"
290 IF SX$ = "F" AND MS$ = "N" THEN Z$ = "BOYFRIEND"
300 HOME : PRINT H$
310 PRINT "ENTER A SENTENCE OR PHRASE OF "
320 PRINT "120 CHARACTERS OR LESS THAT EXPRESSES"
330 PRINT "YOUR OPINION ON A MATTER OF GREAT "
340 PRINT "IMPORTANCE. ENCLOSE YOUR UTTERANCE"
350 PRINT "IN QUOTES IF YOU PLAN TO USE ANY "
360 PRINT "PUNCTUATION": PRINT
370 INPUT S$
380 LS = LEN (S$)
390 IF LS > 5 THEN 420
400 PRINT "YOU HAVE TO SAY SOMETHING MORE"
410 PRINT "THAN THAT. TRY AGAIN ...": GOTO 370
420 IF RIGHT$ (S$,1) = CHR$ (46) THEN 440
430 S$ = S$ + CHR$ (46):LS = LS + 1
440 GOSUB 880
450 PRINT
```

```

460 IF LS < = 125 THEN 490
470 PRINT "A LITTLE LONG-WINDED, TRY AGAIN ..."
480 GOTO 370
490 HOME : PRINT H$
500 PRINT : PRINT "PLEASE WAIT WHILE I COMPOSE THE"
510 PRINT "SPEECH FOR YOU ..."
520 GOSUB 1050
530 VTAB 20
540 PRINT "OK, THE SPEECH IS READY. STRIKE ANY "
550 PRINT "KEY TO SEE IT ...";
560 GET K$
570 HOME : PRINT H$
580 GOSUB 970:Y$ = M$(1): GOSUB 900
590 GOSUB 1050
600 Y$ = "PLEASE!!": GOSUB 900
610 PRINT : PRINT
620 PRINT "(PAUSE FOR LAUGHTER)": PRINT
630 FOR XX = 1 TO 2: GOSUB 1050: NEXT XX
640 HOME : PRINT H$: PRINT
650 Y$ = "THE TOPIC OF THIS " + TD$ + "'S "
660 Y$ = Y$ + "DISCUSSION IS:" + CHR$ (32) + S$
670 GOSUB 1050: GOSUB 900
680 PRINT : PRINT
690 PRINT "(MEANINGFUL PAUSE)": PRINT
700 GOSUB 1050
710 Y$ = S$: GOSUB 900
720 PRINT : PRINT
730 GOSUB 1050
740 Y$ = "AND TO SUMMARIZE THE MATTER: "
750 GOSUB 900: GOSUB 1050
760 Y$ = S$: GOSUB 900: GOSUB 1050
770 PRINT : PRINT
780 Y$ = "THANK YOU FOR YOUR KIND ATTENTION."
790 Y$ = Y$ + " AND HAVE A GOOD " + TD$ + CHR$ (46)
800 GOSUB 900: GOSUB 1050
810 PRINT : PRINT
820 PRINT "(SMILE AND NOD THROUGH APPLAUSE)"
830 PRINT : PRINT "WANT TO COMPOSE ANOTHER SPEECH (Y/N)? ";
840 GET K$
850 IF K$ = "Y" THEN 50
860 IF K$ = "N" THEN END
870 GOTO 840
880 X$ = S$
890 RETURN
900 FOR N = 1 TO LEN (Y$)
910 CH$ = MID$ (Y$,N,1)
920 IF POS (0) > 32 AND CH$ = CHR$ (32) THEN PRINT : GOTO 940
930 PRINT CH$;
940 FOR T = 1 TO 50: NEXT T
950 NEXT N
960 RETURN
970 A$ = "A FUNNY THING HAPPENED TO ME ON THE WAY "
980 A$ = A$ + "HERE THIS " + TD$ + ":" + CHR$ (32)
990 A$ = A$ + "A GUY STOPPED ME ON THE STREET AND ASKED "
1000 A$ = A$ + "ME FOR AN EXAMPLE OF SOMETHING THAT "
1010 A$ = A$ + "REALLY BOTHERS ME. I SAID, 'TAKE MY " + Z$

```



```
1020 A$ = A$ + ", FOR EXAMPLE ..."  
1030 M$(1) = A$  
1040 RETURN  
1050 FOR T = 1 TO 2000: NEXT T  
1060 RETURN
```

Program 83 DUNGEON CHARACTER GENERATOR #1

Making what is inherently simple seem exceedingly difficult is the challenge of incompetence.

—Dungeon Master

```
10 REM ** DUNGEON CHARACTER GENERATOR #1 **
20 REM
30 FOR K = 1 TO 40
40 X$ = X$ + CHR$ (32):Y$ = Y$ + CHR$ (46)
50 NEXT K
60 M$ = "DUNGEON CHARACTER GENERATOR #1" + CHR$ (13)
70 M$ = LEFT$ (X$,5) + M$ + Y$
80 TEXT : HOME : PRINT M$
90 PRINT "ENTER THE CHARACTER'S NAME:"
100 PRINT : INPUT CN$
110 HOME : PRINT M$
120 INVERSE : PRINT CN$: NORMAL
130 PRINT
140 RESTORE
150 PRINT
160 FOR N = 1 TO INT (2 * RND (1) + 6)
170 READ D$
180 IF N = 6 OR N = 7 THEN PRINT
190 PRINT D$; LEFT$ (Y$,30 - POS (0));
200 GOSUB 300
210 IF N = 6 THEN PRINT RD * 10: GOTO 230
220 PRINT RD
230 NEXT N
240 VTAB 21
250 PRINT "NEED ANOTHER CHARACTER (Y/N)? ";
260 GET K$
270 IF K$ = "Y" THEN 80
280 IF K$ = "N" THEN END
290 GOTO 260
300 RD = INT (10 * RND (1) + 9): RETURN
310 DATA STRENGTH,WISDOM,DEXTERITY,CONSTITUTION
320 DATA CHARISMA,GOLD PIECES,SHOE SIZE
```

Program 84 TIC-TAC-TOE

The will to conquer is the first condition of victory.

—Marshal Ferdinand Foch

```
10 REM ** TIC-TAC-TOE **
20 REM
30 FOR K = 1 TO 14: M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "TIC-TAC-TOE" + CHR$ (13)
50 FOR K = 1 TO 40: Y$ = Y$ + "#": NEXT K
60 M$ = M$ + Y$
70 TEXT : HOME : PRINT M$
80 PRINT "THINK YOU ARE PRETTY GOOD WITH THE OLD"
90 PRINT "X'S AND O'S?"
100 PRINT : PRINT "WELL, TRY ME!"
110 FOR T = 1 TO 100
120 IF T > 95 THEN CALL - 198
130 NEXT T
140 PRINT : FLASH
150 PRINT "CHALLENGE": NORMAL
160 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
170 GET K$
180 FOR K = 1 TO 8: READ C(K): NEXT K
190 B$ = CHR$ (32) + CHR$ (32) + CHR$ (32) + CHR$ (32)
200 FOR Y = 1 TO 8: FOR X = 1 TO 3
210 READ N(Y,X): NEXT X: NEXT Y
220 DIM A$(9): DIM W(8,3)
230 FOR K = 1 TO 9: A$(K) = " ": NEXT K
240 A$(1) = "O": FL = 0
250 HOME : PRINT M$
260 GOSUB 730
270 HTAB 1: VTAB 18
280 PRINT "WHICH SQUARE DO YOU WANT (1-9)? ";
290 GET K$: IF K$ < "1" OR K$ > "9" THEN CALL - 198: GOTO 290
300 HTAB 1: VTAB 18
310 PRINT "PLEASE WAIT ..." SPC( 40 - POS (0))
320 SQ = ASC (K$) - 48
330 IF A$(SQ) < > " " THEN CALL - 198: GOTO 270
340 A$(SQ) = "X"
350 GOSUB 590
360 IF FL > 0 THEN 410
370 GOSUB 830
380 GOSUB 590
390 IF FL > 0 THEN 410
400 GOTO 260
410 GOSUB 730
420 IF FL < > 1 THEN 460
430 PRINT : FLASH : PRINT "I WON"
440 FOR K = 1 TO 3: CALL - 198: NEXT K
450 GOTO 530
460 IF FL < > 2 THEN 500
470 PRINT : FLASH : PRINT "YOU WIN"
480 FOR K = 1 TO 4: CALL - 198: NEXT K
```

```

490 GOTO 530
500 HOME : PRINT M$: PRINT
510 FOR K = 1 TO 5: CALL - 198: NEXT K
520 FLASH : PRINT "IT'S A TIE GAME"
530 NORMAL : PRINT
540 PRINT "PLAY AGAIN (Y/N)? ";
550 GET K$
560 IF K$ = "Y" THEN 230
570 IF K$ = "N" THEN HOME : END
580 GOTO 550
590 FOR Y = 1 TO 8:CR = 0:XR = 0:SR = 0
600 FOR X = 1 TO 3:SQ = N(Y,X)
610 IF A$(SQ) = "X" THEN XR = XR + 1
620 IF A$(SQ) = "O" THEN CR = CR + 1
630 NEXT X
640 IF CR = 3 THEN FL = 1
650 IF XR = 3 THEN FL = 2
660 IF FL < > 0 THEN 720
670 FOR K = 1 TO 9
680 IF A$(K) = "*" THEN SR = SR + 1
690 NEXT K
700 IF SR = 0 THEN FL = 3
710 NEXT Y
720 RETURN
730 HOME : PRINT M$
740 VTAB 21: PRINT Y$
750 PRINT "O=COMPUTER" SPC( 8)"X=YOU"
760 VTAB 4
770 FOR C = 0 TO 6 STEP 3: PRINT : PRINT : PRINT
780 FOR R = 1 TO 3: PRINT B$;
790 N = R + C: PRINT N;
800 PRINT A$(N);
810 NEXT R,C: PRINT : PRINT
820 PRINT : RETURN
830 CNT = 1
840 IF A$(C(CNT)) = "*" THEN A$(C(CNT)) = "O": GOTO 880
850 CNT = CNT + 1
860 IF CNT > 8 THEN FL = 3: GOTO 880
870 GOTO 840
880 RETURN
890 DATA 9,3,7,5,2,4,6,8
900 DATA 1,2,3,4,5,6,7,8,9
910 DATA 1,4,7,2,5,8,3,6,9
920 DATA 1,5,9,3,5,7

```

Program 85 MAZES

A man must have a certain amount of intelligent ignorance to get anywhere.

—Charles F. Kettering

```
10 REM ** RANDOM MAZE **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "RANDOM MAZE" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + "**": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "THE COMPUTER IS ABOUT TO DRAW A MAZE"
80 PRINT "FOR YOU. YOUR OBJECTIVE IS TO DIRECT"
90 PRINT "AN ORANGE CREATURE THROUGH THE MAZE"
100 PRINT "AND TO A MAGENTA-COLORED GOAL BOX."
110 PRINT : PRINT "THE TRICK IS TO DO THE JOB WITH AS FEW"
120 PRINT "STEPS AS POSSIBLE."
130 VTAB 21: PRINT "ARE YOU AN EXPERT MAZE SOLVER? ";
140 DF = 550:SCR = 0
150 GET C$
160 IF C$ = "Y" THEN 200
170 IF C$ < > "N" THEN 150
180 DF = 250
190 IF C$ = "Y" THEN DF = 250
200 GR : HOME
210 PRINT TAB( 3)"<RETURN>=EXIT";
220 PRINT SPC( 3)"U=UP" SPC( 5)"R=RIGHT"
230 PRINT TAB( 19)"D=DOWN" SPC( 3)"L=LEFT"
240 ST = 0
250 COLOR= 5: FOR K = 0 TO 39
260 VLIN 0,39 AT K: NEXT K
270 COLOR= 2
280 FOR ND = 1 TO DF
290 X = INT ( RND (1) * 40):Y = INT ( RND (1) * 40)
300 PLOT X,Y
310 NEXT ND
320 COLOR= 1: PLOT 2,2
330 COLOR= 9: PLOT 37,37
340 NX = 37:X = 37:Y = 37:NY = 37
350 GET K$
360 NX = X:NY = Y
370 IF K$ = "U" THEN NY = Y - 1: GOTO 450
380 IF K$ = "L" THEN NX = X - 1: GOTO 450
390 IF K$ = "R" THEN NX = X + 1: GOTO 450
400 IF K$ = "D" THEN NY = Y + 1: GOTO 450
410 COLOR= CL: PLOT X,Y
420 CL = 9
430 IF K$ = CHR$(13) THEN 590
440 GOTO 350
450 IF NX > 39 OR NX < 0 THEN 530
460 IF NY > 39 OR NY < 0 THEN 530
470 CC = SCR(NX,NY)
480 IF CC = 5 OR CC = 9 THEN GOSUB 690
```

```

490 IF CC = 1 THEN 540
500 IF CC = 5 THEN CL = 9: GOTO 410
510 CALL - 198
520 HF = 1: GOSUB 700
530 GOTO 410
540 FOR K = 1 TO 6: CALL ( - 198): NEXT K
550 TEXT : HOME : PRINT M$
560 PRINT "YOU DID IT IN "ST" MOVES."
570 SCR = SCR + 1
580 GOTO 600
590 TEXT : HOME
600 VTAB 21: PRINT "LIKE TO TRY AGAIN (Y/N)? ";
610 GET K$: IF K$ = "Y" THEN 200
620 IF K$ < > "N" THEN 610
630 HOME : PRINT M$
640 VTAB 8
650 PRINT "WELL, YOU MADE IT THROUGH "SCR" MAZE";
660 IF SCR < > 1 THEN PRINT "S";
670 PRINT CHR$ (46)
680 END
690 COLOR= 5: PLOT X,Y: COLOR= 9
700 ST = ST + 1
710 HTAB 1: VTAB 22
720 INVERSE : PRINT "SCORE="ST;: NORMAL
730 PRINT SPC( 12 - POS (0))
740 IF HF = 1 THEN HF = 0: RETURN
750 X = NX:Y = NY: RETURN

```

Program 86 ROBOT MAZE

The danger of the past was that men became slaves. The danger of the future is that man may become robot.

—Erich Fromm

```
10 REM ** ROBOT MAZE **
20 REM
30 FOR K = 1 TO 15:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "ROBOT MAZE" + CHR$ (13)
50 FOR K = 1 TO 40:L$ = L$ + "=": NEXT K
60 M$ = M$ + L$
70 BM = 32000
80 HOME : PRINT M$
90 PRINT "THINK YOU HAVE TO BE INTELLIGENT TO"
100 PRINT "SOLVE A MAZE? WELL, NOT SO."
110 PRINT
120 PRINT "THE RANDOM-MOTION 'ROBOT' IN THIS PRO-"
130 PRINT "GRAM PROVES THE POINT."
140 PRINT : PRINT
150 PRINT "ENTER A LEVEL OF MAZE COMPLEXITY FOR"
160 PRINT "THE LITTLE SUCKER (1-5) ";
170 GET K$
180 IF K$ < "1" OR K$ > "5" THEN 170
190 PRINT SPC( 1)K$
200 DL = VAL (K$)
210 VTAB 21
220 PRINT "STRIKE ANY KEY TO BEGIN ...";
230 GET K$
240 GR : HOME : GOSUB 490
250 NM = 0
260 VTAB 23
270 PRINT "STRIKE ANY KEY TO ABORT ....";
280 CH = 37:CV = 37
290 I = INT (5 * RND (1)) - 2
300 J = INT (5 * RND (1)) - 2
310 IF I = 0 AND J = 0 THEN 290
320 NH = CH + I:NV = CV + J
330 YY = SCRNI ( NH,NV)
340 IF YY = 1 THEN 760
350 IF YY > 5 THEN CALL - 198: GOTO 290
360 IF SCRNI ( NH,NV) > 5 THEN 290
370 G = PEEK ( - 16336)
380 NM = NM + 1
390 HTAB 1: VTAB 21
400 INVERSE
410 PRINT "NO. MOVES="NM
420 NORMAL
430 COLOR= 5: PLOT CH,CV
440 COLOR= 9: PLOT NH,NV
450 CH = NH:CV = NV
460 K = PEEK ( - 16384): POKE - 16368,0
470 IF K > 127 THEN HOME : GOTO 790
```

```

480 GOTO 320
490 COLOR= 5
500 FOR N = 0 TO 39
510 VLIN 0,39 AT N
520 NEXT N
530 COLOR= 15
540 FOR N = 0 TO 1: HLIN 0,39 AT N: NEXT N
550 FOR N = 38 TO 39: HLIN 0,39 AT N: NEXT N
560 FOR N = 0 TO 1: VLIN 0,39 AT N: NEXT N
570 FOR N = 38 TO 39: VLIN 0,39 AT N: NEXT N
580 COLOR= 1
590 FOR N = 2 TO 6
600 VLIN 2,6 AT N
610 NEXT N
620 COLOR= 6
630 FOR N = 1 TO 6 + 3 * DL
640 W = INT (36 * RND (1)) + 2
650 Z = INT (36 * RND (1)) + 2
660 FOR X = W TO W + 3
670 FOR Y = Z TO Z + 3
680 IF SCRN( X,Y) < > 5 THEN 640
690 IF X = 37 AND Y = 37 THEN 640
700 NEXT Y,X
710 FOR X = W TO W + 3
720 FOR Y = Z TO Z + 3
730 PLOT X,Y
740 NEXT Y,X,N
750 RETURN
760 HOME
770 PRINT "HE DID IT IN "NM" MOVES."
780 IF NM < BM THEN BM = NM
790 PRINT "BEST SO FAR IS ";
800 IF BM > = 32000 THEN PRINT "NOT RELEVANT";: GOTO 820
810 PRINT BM;
820 PRINT CHR$( 46)
830 PRINT "WANT TO SEE IF HE CAN DO BETTER (Y/N)?";
840 GET K$
850 IF K$ = "Y" THEN TEXT : HOME : PRINT M$: GOTO 150
860 IF K$ < > "N" THEN 840
870 TEXT : HOME : END

```


Program 87 ROACH RACE

Look at that little sucker go!

—Overheard on an Air Force base in Turkey

```
10 REM    ** ROACH RACE **
20 REM
30 FOR N = 0 TO 14: X$ = X$ + CHR$ (32): NEXT N
40 M$ = X$ + "ROACH RACE"
50 TEXT : HOME : PRINT M$
60 FOR N = 0 TO 39
70 PRINT "#"; X = PEEK ( - 16336)
80 FOR T = 0 TO 50: NEXT T
90 NEXT N: PRINT
100 PRINT "YOU ARE ABOUT TO WITNESS RACES BETWEEN"
110 PRINT "A PAIR OF ROACHES.": PRINT
120 VTAB 12
130 FLASH : PRINT "WARNING: ";: NORMAL
140 FOR N = 0 TO 4: CALL - 198: NEXT N
150 PRINT " BETTING ON ROACH RACES MAY BE"
160 PRINT "ILLEGAL IN YOUR STATE."
170 VTAB 20: PRINT "STRIKE ANY KEY TO SET UP THE"
180 PRINT "ROACH RACE TRACK ...";
190 GET K$
200 GR
210 COLOR= 153
220 VLIN 2,35 AT 2: VLIN 2,35 AT 18: VLIN 2,35 AT 35
230 COLOR= 34
240 PLOT 9,32
250 PLOT 26,32
260 HOME : PRINT "GET READY ..."
270 FOR T = 0 TO 1500: NEXT T
280 HOME : PRINT "GET SET ..."
290 FOR T = 0 TO 1500: NEXT T
300 CALL - 198
310 HOME : PRINT : PRINT M$
320 LX = 9: LY = 32: RX = 26: RY = 32
330 FOR T = 0 TO 50: NEXT T
340 X = PEEK ( - 16336)
350 LP = RND (1): RP = RND (1)
360 GOSUB 640
370 IF LP < .2 THEN 520
380 IF LP > .8 THEN 550
390 LY = LY - 1
400 IF RP < .2 THEN 580
410 IF RP > .8 THEN 610
420 RY = RY - 1
430 IF (RY < 5) OR (LY < 5) THEN GOTO 460
440 PLOT LX,LY: PLOT RX,RY
450 GOTO 330
460 HOME : FLASH
470 PLOT LX,LY: PLOT RX,RY
480 IF LY < 5 AND RY < 5 THEN PRINT "IT'S A TIE!!": GOTO 510
```

```

490 IF LY < 5 THEN PRINT "THE ROACH ON THE LEFT WON!!"
500 IF RY < 5 THEN PRINT "THE ROACH ON THE RIGHT WON!!"
510 NORMAL : GOTO 710
520 LX = LX - 1
530 IF LX < 3 THEN LX = 3
540 GOTO 400
550 LX = LX + 1
560 IF LX > 17 THEN LX = 17
570 GOTO 400
580 RX = RX - 1
590 IF RX < 18 THEN RX = 19
600 GOTO 430
610 RX = RX + 1
620 IF RX > 34 THEN RX = 34
630 GOTO 430
640 REM ERASE
650 COLOR= 0
660 PLOT LX,LY
670 PLOT RX,RY
680 COLOR= 34
690 X = PEEK ( - 16336)
700 RETURN
710 PRINT "STRIKE RETURN TO RACE AGAIN."
720 PRINT "OR STRIKE THE X KEY TO DO"
730 PRINT "SOMETHING ELSE ...";
740 GET A$: IF A$ = "X" THEN 760
750 GOTO 200
760 TEXT : HOME

```

Program 88 ROACH RACE PLUS

It's OK to take candy from a baby as long as you know where it has been.

—From *Modern American Wisdom* (unpublished)

Sneaking a space at the end of your name gives your roach a shot of steroids.

```
10 REM ** ROACH RACE **
20 REM
30 GOSUB 1110
40 FOR N = 0 TO 14: X$ = X$ + CHR$ (32): NEXT N
50 M$ = X$ + "ROACH RACE"
60 TEXT : HOME : PRINT M$
70 FOR N = 0 TO 39
80 PRINT "#"; X = PEEK ( - 16336)
90 FOR T = 0 TO 50: NEXT T
100 NEXT N: PRINT
110 PRINT "YOU ARE ABOUT TO WITNESS RACES BETWEEN"
120 PRINT "A PAIR OF ROACHES.": PRINT
130 VTAB 12
140 FLASH : PRINT "WARNING:": NORMAL
150 FOR N = 0 TO 4: CALL - 198: NEXT N
160 PRINT " BETTING ON ROACH RACES MAY BE"
170 PRINT "ILLEGAL IN YOUR STATE."
180 VTAB 20: PRINT "STRIKE ANY KEY TO SET UP THE BETS ...";
190 GET K$
200 TEXT : HOME : PRINT M$
210 FOR K = 1 TO 2
220 PRINT : PRINT "PLAYER "K" WHAT IS YOUR NAME ";
230 INPUT N$(K)
240 IF N$(K) = "" THEN 220
250 M(K) = 100
260 REM
270 NEXT K
280 HOME : PRINT M$
290 PRINT N$(1)":": PRINT M1$;"LEFT."
300 PRINT
310 PRINT N$(2)":": PRINT M1$;"RIGHT.": PRINT
320 FOR K = 1 TO 2: PRINT N$(K)": "
330 PRINT "YOU HAVE $"M(K)". PLACE YOUR BET -- $";
340 INPUT "";B(K)
350 IF B(K) > M(K) THEN PRINT M2$: GOTO 330
360 IF B(K) < = 0 THEN PRINT M3$: GOTO 330
370 NEXT K
380 IF RIGHT$ (N$(1),1) = CHR$ (32) THEN F1 = 1
390 IF RIGHT$ (N$(2),1) = CHR$ (32) THEN F2 = 1
400 HOME : PRINT M$: PRINT
410 PRINT "THE BETS ARE ALL IN."
420 VTAB (20): PRINT "STRIKE ANY KEY TO BEGIN THE RACE ..."
430 GET K$: GR
440 HOME : PRINT : PRINT M$
450 COLOR= 153
460 VLIN 2,35 AT 2: VLIN 2,35 AT 18: VLIN 2,35 AT 35
```

```

470 COLOR= 34: PLOT 9,32: PLOT 26,32
480 LX = 9:LY = 32:RX = 26:RY = 32
490 HOME : PRINT : PRINT "GET READY ..."
500 FOR T = 1 TO 1200: NEXT T
510 HOME : PRINT : PRINT "GET SET ... "
520 FOR T = 1 TO 1200: NEXT T
530 HOME : PRINT : PRINT M$
540 CALL - 198
550 FOR X = 1 TO 50: NEXT X
560 CLK = PEEK ( - 16336):CLK = PEEK ( - 16336)
570 LP = RND (1):RP = RND (1)
580 GOSUB 830
590 IF LP < .2 THEN 710
600 IF LP > .8 THEN 740
610 LY = LY - 1
620 IF RP < .2 THEN 770
630 IF RP > .8 THEN 800
640 RY = RY - 1
650 IF (RY < 5) OR (LY < 5) THEN GOTO 680
660 PLOT LX,LY: PLOT RX,RY
670 GOTO 550
680 IF LY < 5 THEN WR = 1: GOTO 910
690 IF RY < 5 THEN WR = 2: GOTO 910
700 GOTO 880
710 LX = LX - 1
720 IF LX < 3 THEN LX = 3
730 GOTO 620
740 LX = LX + 1
750 IF LX > 17 THEN LX = 17
760 GOTO 620
770 RX = RX - 1
780 IF RX < 19 THEN RX = 19
790 GOTO 650
800 RX = RX + 1
810 IF RX > 34 THEN RX = 34
820 GOTO 650
830 IF F1 = 1 THEN LP = .5
840 IF F2 = 1 THEN RP = .5
850 COLOR= 0: PLOT LX,LY: PLOT RX,RY: COLOR= 34
860 CLK = PEEK ( - 16336):CLK = PEEK ( - 16336)
870 RETURN
880 GET A$: IF A$ = "X" THEN 900
890 GOTO 420
900 END
910 TEXT : HOME : PRINT : PRINT M$: PRINT
920 PRINT : PRINT "CONGRATULATIONS, ";
930 FLASH : PRINT N$(WR): NORMAL
940 FOR N = 1 TO 5: CALL - 198: NEXT N
950 NORMAL : PRINT "YOUR ROACH WON THE RACE!!"
960 PRINT : PRINT "YOUR WINNINGS SO FAR ARE: $";
970 M(WR) = M(WR) + B(WR):LR = WR + 1
980 PRINT M(WR): PRINT
990 IF LR > 2 THEN LR = 1
1000 M(LR) = M(LR) - B(LR)
1010 PRINT : PRINT N$(LR)," "
1020 PRINT "YOUR BANKROLL IS NOW DOWN TO $"M(LR)

```

```

1030 IF M(LR) > 1 THEN 1060
1040 PRINT "YOU'RE DONE!"
1050 M(1) = 100:M(2) = 100
1060 VTAB 20: PRINT "WANT TO RACE AGAIN (Y/N)? ";
1070 GET K$
1080 IF K$ = "Y" THEN 280
1090 IF K$ < > "N" THEN 1070
1100 END
1110 M1$ = "YOUR ROACH WILL BE THE ONE ON THE "
1120 M2$ = "YOU CANNOT BET MORE THAN YOU HAVE!!"
1130 M3$ = "COME ON, NOW." + CHR$ (13)
1140 M3$ = M3$ + "YOU HAVE TO BET SOMETHING ..."
1150 RETURN

```

Program 89 SUBMARINE ATTACK

Run silent.

Run deep.

Run to the head before you sleep.

—Ancient submariners' proverb

```
10 REM ** SUBMARINE COMMAND **
20 REM
30 TEXT : HOME
40 M$ = "SUBMARINE COMMAND" + CHR$ (13)
50 FOR K = 1 TO 40:L$ = L$ + "=": NEXT K
60 M$ = M$ + L$
70 HOME
80 PRINT M$
90 PRINT "YOU ARE A SUBMARINE COMMANDER ON A"
100 PRINT "SEARCH-AND-DESTROY MISSION."
110 PRINT : PRINT "YOU HAVE 12 TORPEDOES ON BOARD AND "
120 PRINT "AS MANY SURFACE CHANCES TO DESTROY "
130 PRINT "VESSELS."
140 PRINT : PRINT "USE THE SPACE BAR TO FIRE THE TORPEDOES"
150 PRINT "OR USE THE X KEY TO ABORT THE MISSION."
160 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
170 GET K$
180 HOME
190 HIT = 0:TRP = 12
200 SH = 1:TV = 21
210 FF = 0:HF = 0
220 SD = 0:TD = 0
230 GOSUB 880: GOSUB 850
240 GOSUB 690
250 VTAB 5: PRINT L$
260 VTAB 21: PRINT L$
270 GOSUB 730: GOSUB 600
280 K = PEEK ( - 16384): POKE - 16368,0
290 IF K < 128 THEN 350
300 IF K = 216 THEN HOME : PRINT M$: GOTO 510
310 IF FF = 1 THEN 360
320 FF = 1
330 TRP = TRP - 1
340 GOSUB 880
350 IF FF = 0 THEN GOSUB 710: GOTO 380
360 GOSUB 730
370 IF EF = 1 THEN 480
380 IF HF = 0 THEN 270
390 VTAB 4: HTAB SH
400 FLASH
410 PRINT "BOOM-BLANG-BLOOEY"
420 NORMAL
430 CALL - 198: CALL - 198
440 FOR T = 1 TO 400: NEXT T
450 HIT = HIT + 1
460 GOSUB 880
```

```

470 HOME : GOTO 200
480 HOME : PRINT M$
490 PRINT "YOU HAVE EXHAUSTED YOUR SUPPLY OF "
500 PRINT "TORPEDOES."
510 PRINT : PRINT "THE CURRENT MISSION IS COMPLETED WITH"
520 PRINT HIT" STRIKE";
530 IF HIT < > 1 THEN PRINT "S";
540 PRINT CHR$(46)
550 VTAB 21: PRINT "DO YOU WANT ANOTHER MISSION (Y/N)?";
560 GET K$
570 IF K$ = "Y" THEN 180
580 IF K$ = "N" THEN HOME : END
590 GOTO 560
600 VTAB 4: HTAB SH
610 PRINT SPC( 1)"<=>";
620 GOSUB 860
630 IF SD > 0 THEN SD = SD - 1: RETURN
640 SH = SH + 1
650 IF SH < 36 THEN 690
660 VTAB 4: HTAB SH - 1
670 PRINT SPC( 4)
680 SH = 1
690 IF SD < = 0 THEN SD = INT (4 * RND (1))
700 RETURN
710 FOR T = 1 TO 10: NEXT T
720 RETURN
730 VTAB TV: HTAB 24
740 IF TD > 0 THEN TD = TD - 1: RETURN
750 PRINT "!"
760 IF FF = 0 THEN 850
770 VTAB TV + 1: HTAB 24
780 PRINT CHR$(32)
790 GOSUB 860
800 TV = TV - 1
810 IF TV > 4 THEN 850
820 IF TRP < = 0 THEN EF = 1: CALL - 198: GOTO 870
830 VTAB 5: HTAB 24: PRINT "="
840 TV = 21:FF = 0: GOTO 730
850 IF TD < = 0 THEN TD = INT (4 * RND (1))
860 IF TV < 6 AND SH > 20 AND SH < 24 THEN HF = 1
870 RETURN
880 VTAB 24: HTAB 6
890 PRINT HIT" HIT";
900 IF HIT < > 1 THEN PRINT "S";
910 VTAB 24: HTAB 15
920 PRINT TRP" TORPEDO";
930 IF TRP < > 1 THEN PRINT "ES";
940 PRINT " LEFT";
950 PRINT SPC( 39 - POS (0))
960 VTAB 22: HTAB 6
970 PRINT "SPACE=FIRE" SPC( 9)"X=ABORT"
980 RETURN

```

Program 90 MISSILE DEFENDER

Sparkle, sparkle little missile,
I sure do hope that you don't fizzle,
When we open silo's lid,
Built by the company with the lowest bid.

—From *Poems on Conjecture* (unpublished)

```
10 REM ** BALLISTIC MISSILES **
20 REM
30 FOR K = 1 TO 9:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "BALLISTIC MISSILE GAME" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "**": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "DO YOU WANT TO SEE THE INSTRUCTIONS"
80 PRINT "(Y/N)? ";
90 GET K$
100 IF K$ = "N" THEN 290
110 IF K$ < > "Y" THEN 90
120 HOME : PRINT M$
130 SPEED= 100
140 PRINT "THE ENEMY HAS JUST FIRED AN ICBM THAT"
150 PRINT "IS AIMED DIRECTLY AT YOUR DEFENSE SILO."
160 PRINT "ENEMY UNDERCOVER AGENTS HAVE ALREADY"
170 PRINT "DESTROYED THE GUIDANCE SYSTEMS IN YOUR"
180 PRINT "ANTI-BALLISTIC MISSILES; BUT YOU CAN"
190 PRINT "STILL AIM THEM IN THE OLD WAY --"
200 PRINT "BY SETTING A FIRING ANGLE BETWEEN"
210 PRINT "0 AND 90 DEGREES.": PRINT
220 FLASH : PRINT "WARNING:": NORMAL
230 PRINT "IT IS INADVISABLE TO USE ANGLES"
240 PRINT "OF EXACTLY 0 AND 90 DEGREES."
250 PRINT : PRINT "GOOD LUCK, AND STAY CALM ..."
260 SPEED= 255
270 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
280 GET K$
290 TD = INT ( RND (1) * 40 + 10)
300 HOME : PRINT M$
310 MR = 10
320 PRINT "MISSILE RANGE: "TD" KM"
330 PRINT : INVERSE
340 PRINT "ENTER THE FIRING ANGLE (0-90)";
350 NORMAL : PRINT SPC( 1)
360 MR = MR - 1
370 INPUT ";A
380 IF A < 0 OR A > 90 THEN 320
390 IF A = 0 OR A = 90 THEN 480
400 A = A * 3.1415926535 / 180
410 D = 100 * TAN (A)
420 E = COS (A) * COS (A)
430 D = D * E
440 DD = INT (TD - D)
```



```

450 IF DD < 0 THEN A$ = "OVER"
460 IF DD > 0 THEN A$ = "UNDER"
470 DD = ABS (DD)
480 FOR T = 9 TO 0 STEP - 1
490 CLK = PEEK ( - 16336):CLK = PEEK ( - 16336)
500 VTAB 15: HTAB 5: INVERSE
510 PRINT "T MINUS "T" SECONDS AND COUNTING"
520 FOR W = 1 TO 500: NEXT W
530 NEXT T
540 VTAB 15: HTAB 5
550 FLASH : PRINT "*** WE HAVE LIFT-OFF ***";
560 NORMAL : PRINT SPC( 40 - POS (0)): PRINT
570 FOR K = 1 TO 5: CALL - 198: NEXT K
580 IF A = 0 OR A = 90 THEN 940
590 FOR T = 1 TO 1000: NEXT T
600 IF DD < 10 THEN 830
610 HOME : PRINT M$
620 PRINT "YOUR MISSILE WAS "A$"RANGE BY "DD" KM"
630 IF MR < > 1 THEN 680
640 PRINT : PRINT "YOU HAVE ONLY 1 MISSILE REMAINING."
650 INVERSE : PRINT "THIS IS IT -- YOUR LAST CHANCE!"
660 NORMAL
670 GOTO 690
680 PRINT : PRINT "YOU NOW HAVE "MR" MISSILES REMAINING"
690 IF MR = 0 THEN 790
700 TD = TD - 1
710 IF TD < 5 THEN 770
720 PRINT : PRINT "THE ICBM IS GETTING CLOSER ..."
730 FOR T = 1 TO 100:CK = PEEK ( - 16336): NEXT T
740 FOR T = 1 TO 3000: NEXT T
750 HOME : PRINT M$
760 GOTO 320
770 HOME : PRINT M$: PRINT
780 FOR K = 1 TO 5: CALL ( - 198): NEXT K
790 GOSUB 1010: VTAB 10
800 PRINT "ALAS. THE ENEMY MISSILE REACHED ITS"
810 PRINT "DESTINATION -- YOUR DEFENSE SILO."
820 GOTO 890
830 HOME : PRINT M$: PRINT
840 FOR K = 1 TO 10: CALL - 198: NEXT K
850 PRINT : PRINT
860 FLASH
870 PRINT "YOU HAVE DESTROYED THE ICBM"
880 NORMAL
890 VTAB 21: PRINT "WANT TO PLAY AGAIN (Y/N)? ";
900 GET K$
910 IF K$ = "Y" THEN 290
920 IF K$ < > "N" THEN 900
930 HOME : END
940 GOSUB 1010
950 HTAB 1: VTAB 15
960 PRINT "YOU HAVE SHOT THE MISSILE AT YOURSELF!"
970 FOR K = 1 TO 5: CALL - 198: NEXT K
980 FOR T = 1 TO 500: NEXT T
990 PRINT "YOU FAIL THE EXERCISE."
1000 GOTO 890

```

```
1010 POKE - 16304,0: POKE - 16302,0
1020 FOR N = 1 TO 25
1030 POKE - 16297,0
1040 FOR T = 0 TO 10
1050 X = PEEK ( - 16336)
1060 NEXT T
1070 POKE - 16298,0
1080 NEXT N
1090 TEXT : RETURN
```

Program 91 HACKERS' AID

Buy a modem, and the world's your oyster.

—Anonymous (by choice)

Author's note: This is a long program, I know. But it is sure great for pulling the leg of some folks who know enough to be harmful, but not enough to be wise.

```
10 REM  ** HACKERS AID **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "HACKERS AID" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "-": NEXT K
60 FOR N = 1 TO 8: READ CN$(N): NEXT N
70 Y$ = RIGHT$(M$,40)
80 HOME : PRINT M$
90 PRINT "SELECT A TARGET SYSTEM (1-7)
100 PRINT "OR EXIT (8)
110 PRINT
120 FOR N = 1 TO 8
130 PRINT TAB( 5)"("N") "CN$(N)
140 NEXT N
150 PRINT X$
160 GET K$
170 IF K$ < "1" OR K$ > "8" THEN 160
180 CN = VAL (K$)
190 IF CN < 7 THEN 240
200 IF CN = 8 THEN HOME : END
210 PRINT X$
220 PRINT "ENTER NAME OF 'OTHER' TARGET SYSTEM:"
230 INPUT "":CN$(7)
240 HOME : PRINT M$
250 PRINT "PHONE INTERFACING MODE:"
260 INVERSE : PRINT CN$(CN): NORMAL
270 HTAB 1: VTAB 8
280 PRINT "LOCATE YOUR TELEPHONE NEAR THE CRT."
290 HTAB 1: VTAB 21
300 PRINT "STRIKE ANY KEY WHEN READY ....";
310 GET K$
320 HTAB 1: VTAB 8
330 PRINT "NOW TESTING LOCAL PHONE INTERFACE.";
340 PRINT SPC( 39 - POS (0))
350 PRINT
360 FLASH : PRINT "PLEASE WAIT";: NORMAL
370 PRINT SPC( 39 - POS (0)): PRINT
380 FOR T = 1 TO 1000 * RND (1) + 1000: NEXT T
390 IF T < 1500 THEN 460
400 HTAB 1: VTAB 8: CALL - 198
410 FLASH : PRINT "BAD LOCAL CONNECTION";: NORMAL
420 PRINT SPC( 39 - POS (0))
430 PRINT : PRINT "ADJUST THE PHONE'S POSITION.";
440 PRINT SPC( 39 - POS (0))
```

```

450 GOTO 290
460 HOME : PRINT M$
470 INVERSE : PRINT "GOOD LOCAL INTERFACE": NORMAL
480 PRINT
490 PRINT "SELECT NUMBER OF LONG-DISTANCE NODES"
500 PRINT "(1-9)."

```

```

1010 HTAB CH: VTAB CV
1020 IF NT > = NN THEN 1050
1030 IF PEEK (37) > = 19 THEN 690
1040 GOTO 700
1050 HTAB 1: VTAB 6
1060 INVERSE
1070 PRINT "NOW CONFIRMING. PLEASE WAIT ...";
1080 NORMAL : PRINT SPC( 40 - POS (0))
1090 FOR T = 1 TO 4000: NEXT T
1100 GOTO 1160
1110 FOR R = 1 TO 30
1120 IF R < 3 THEN G = PEEK ( - 16336)
1130 NEXT R
1140 FOR T = 1 TO 100: NEXT T
1150 RETURN
1160 HOME : PRINT M$
1170 PRINT "SUCCESSFUL "NN"-NODE LINK TO"
1180 INVERSE : PRINT CN$(CN): NORMAL
1190 PRINT :
1200 PRINT "DO YOU HAVE A PASSWORD FOR THE TARGET"
1210 PRINT "SYSTEM (Y/N)? ";
1220 GET K$
1230 IF K$ = "N" THEN 1380
1240 IF K$ < > "Y" THEN 1220
1250 PRINT
1260 PRINT : PRINT "ENTER THE PASSWORD:"
1270 INPUT " ";PW$
1280 HTAB 1: VTAB 21
1290 INVERSE : PRINT "NOW TESTING "PW$: NORMAL
1300 PRINT "PLEASE WAIT ..."
1310 FOR T = 1 TO 2500: NEXT T
1320 FOR N = 1 TO 4: CALL - 198: NEXT N
1330 HTAB 1: VTAB 21
1340 FLASH : PRINT "INVALID PASSWORD";: NORMAL
1350 PRINT SPC( 39 - POS (0)): PRINT
1360 PRINT "STRIKE ANY KEY FOR AUTO-SELECT MODE ...";
1370 GET K$
1380 HOME : PRINT "PASSWORD AUTO-SEARCH FOR"
1390 INVERSE : PRINT CN$(CN): NORMAL
1400 PRINT Y$
1410 NN = INT (10 / CN * RND (1) + 8 - CN)
1420 NT = 0
1430 IF CN > 2 THEN 1480
1440 PRINT "PASSWORDS FOR THIS HOST ARE CHANGED"
1450 PRINT "HOURLY. THIS MAY TAKE SOME TIME."
1460 GOTO 1480
1470 FOR T = 1 TO 4000: NEXT T
1480 HTAB 1: VTAB 8
1490 X = INT (26 * RND (1) + 65)
1500 Y = INT (26 * RND (1) + 65)
1510 Z = INT (8999 * RND (1)) + 1000
1520 CH = PEEK (36) + 1:CV = PEEK (37) + 1
1530 HTAB 18: VTAB 7
1540 PRINT "SEARCHING" SPC( 40 - POS (0))
1550 HTAB CH: VTAB CV
1560 IF 20 * RND (1) > 1 THEN 1590

```

```

1570 NT = NT + 1: CALL - 198: CF = 1
1580 IF CF = 1 THEN INVERSE
1590 IF CN > 2 THEN PRINT X-"Y"-"Z: GOTO 1610
1600 PRINT CHR$(X); CHR$(Y)":"Z: GOTO 1610
1610 NORMAL
1620 IF CF = 0 THEN 1750
1630 CH = PEEK (36) + 1: CV = PEEK (37) + 1
1640 HTAB 18: VTAB 7
1650 INVERSE
1660 PRINT "TRYING";
1670 NORMAL : PRINT SPC( 40 - POS (0))
1680 FOR T = 1 TO 3000: NEXT T
1690 HTAB 18: VTAB 7
1700 INVERSE : PRINT "CONFIRMING";
1710 NORMAL : PRINT SPC( 40 - POS (0))
1720 FOR T = 1 TO 2000 + 1000 * RND (1): NEXT T
1730 CF = 0
1740 HTAB CH: VTAB CV
1750 IF NT > = NN THEN 1780
1760 IF PEEK (37) > = 19 THEN 1480
1770 GOTO 1490
1780 HTAB CH: VTAB CV: INVERSE
1790 PRINT "PASSWORD FOUND AND CONFIRMED."
1800 NORMAL : HTAB 1: VTAB 21
1810 PRINT "STRIKE ANY KEY TO CONTINUE ... ";
1820 GET K$
1830 HOME : PRINT M$
1840 PRINT "LINK IS ESTABLISHED FOR"
1850 INVERSE : PRINT CN$(CN): NORMAL
1860 HTAB 1: VTAB 20
1870 PRINT "UNAUTHORIZED ACCESS IS ILLEGAL. ARE YOU"
1880 PRINT "SURE YOU WANT TO PROCEED (Y/N)? ";
1890 GET K$
1900 IF K$ = "N" THEN 80
1910 IF K$ < > "Y" THEN 1890
1920 SPEED= 100
1930 FOR N = 1 TO 21: PRINT CHR$(32): NEXT N
1940 HOME
1950 PRINT CN$(CN): PRINT
1960 PRINT PW$ " FILE ";
1970 PRINT INT (1000 * RND (1)) / 1000
1980 PRINT : PRINT "SYS GBAK 144."
1990 PRINT "AUTHORIZED PERSONNEL ONLY"
2000 PRINT : PRINT
2010 SPEED= 255
2020 GOTO 2140
2030 IF 4 * RND (1) > 1 THEN 2140
2040 HOME : PRINT M$
2050 FLASH : PRINT "WARNING!": NORMAL
2060 FOR N = 1 TO 8: CALL - 198: NEXT N
2070 PRINT "TELEPHONE TRACE IS ON ..."
2080 FLASH
2090 PRINT "ABORT QUICKLY!"
2100 NORMAL
2110 HTAB 1: VTAB 21
2120 PRINT "STRIKE THE X KEY TO ABORT ...";

```

```
2130 GET K$: GOTO 80
2140 FOR N = 1 TO 500 * RND (1) + 500
2150 PRINT CHR$ ( PEEK (1000 + N));
2160 NEXT N
2170 INVERSE : PRINT "PARITY ERROR": NORMAL
2180 GOTO 2000
2190 DATA DEPARTMENT OF DEFENSE
2200 DATA INTERNAL REVENUE SERVICE
2210 DATA IBM CORPORATION
2220 DATA GENERAL MOTORS CORPORATION
2230 DATA AMERIBANK
2240 DATA STANFORD UNIVERSITY
2250 DATA OTHER (TO SPECIFY)
2260 DATA EXIT THE PROGRAM
```

Program 92 SEA BATTLE

Dum-ta-da-dummmm
Ta-da-ta-dum-dum
Tee-dee-ta-dum

—From the theme of *Victory at Sea*

```
10 REM ** BATTLESHIP GAME **
20 REM
30 FOR K = 1 TO 23: H$ = H$ + CHR$ (32): NEXT K
40 H$ = H$ + "A B C D E F G H"
50 DIM CMP$(10,10): DIM PMP$(10,10)
60 M$ = LEFT$(H$,15)
70 M$ = M$ + "BATTLESHIP" + CHR$ (13)
80 FOR K = 1 TO 39: Y$ = Y$ + "**": NEXT K
90 M$ = M$ + Y$
100 TEXT : HOME : PRINT M$: PRINT
110 PRINT "WANT TO SEE THE INSTRUCTIONS (Y/N)?";
120 GET K$
130 IF K$ = "N" THEN 320
140 IF K$ < > "Y" THEN 120
150 HOME : PRINT M$: PRINT
160 SPEED= 80
170 PRINT "THIS IS A COMPUTERIZED VERSION OF THE"
180 PRINT "BOARD GAME, 'BATTLESHIP.'"
190 PRINT : PRINT "YOUR OBJECTIVE IS TO SINK THE COM-"
200 PRINT "PUTER'S SHIPS BY FIRING AT COORDINATES"
210 PRINT "ON A MAP.": PRINT
220 PRINT "BUT THERE ARE A COUPLE OF CATCHES."
230 PRINT "FIRST, YOU DON'T KNOW THE COORDINATES"
240 PRINT "OF THE ENEMY SHIPS. AND SECOND, THE"
250 PRINT "ENEMY IS FIRING BACK AT YOU!": PRINT
260 PRINT "YOU AND THE COMPUTER BOTH HAVE 5 SHIPS"
270 PRINT "AT THE OUTSET. THE FIRST TO SINK ALL"
280 PRINT "OF THE OPPONENT'S SHIPS WINS THE GAME."
290 SPEED= 255
300 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
310 GET K$
320 E$ = "+": PS = 5: CS = 5
330 FOR R = 1 TO 8: FOR C = 1 TO 8
340 PMP$(R,C) = E$: CMP$(R,C) = E$
350 NEXT C: NEXT R
360 FOR K = 1 TO 5
370 R = INT ( RND (1) * 8 + 1)
380 C = INT ( RND (1) * 8 + 1)
390 PMP$(R,C) = "**"
400 NEXT K
410 FOR K = 1 TO 5
420 R = INT ( RND (1) * 8 + 1)
430 C = INT ( RND (1) * 8 + 1)
440 CMP$(R,C) = "**"
450 NEXT K
460 HOME : PRINT M$
```



```

470 PRINT H$
480 VTAB 21: PRINT Y$
490 PRINT "**=YOUR GOOD SHIPS" SPC( 4)
500 PRINT "§=YOUR DEAD SHIPS" SPC( 4)
510 HTAB 1: VTAB 23: PRINT "+=UNTRIED AREAS"
520 VTAB 23: HTAB 22: PRINT "<RETURN>=EXIT"
530 VTAB 5
540 FOR R = 1 TO 8: HTAB 22: PRINT R;
550 FOR C = 1 TO 8
560 HTAB C * 2 + 22
570 PRINT PMP$(R,C) + CHR$( 32);: NEXT C
580 PRINT
590 NEXT R
600 VTAB 6: PRINT "COMPUTER HAS"
610 PRINT : PRINT CS" SHIP";
620 IF CS < > 1 THEN PRINT "S";
630 HTAB 1: VTAB 10
640 PRINT "YOU HAVE"
650 PRINT : PRINT PS" SHIP";
660 IF PS < > 1 THEN PRINT "S";
670 HTAB 1: VTAB 15
680 PRINT "WHERE DO YOU WISH TO FIRE?"
690 VTAB 17: PRINT "ROW (1-8)";
700 GET K$
710 IF K$ = CHR$( 13) THEN 1120
720 IF K$ < "1" OR K$ > "8" THEN 700
730 PR = VAL (K$)
740 PRINT PR
750 HTAB 15: VTAB 17
760 PRINT "COLUMN (A-H)";
770 GET K$
780 IF K$ = CHR$( 13) THEN 1120
790 IF K$ < "A" OR K$ > "H" THEN 770
800 PC$ = K$
810 PRINT PC$
820 PC = ASC (PC$) - 64
830 IF PC > 8 OR PC < 1 THEN 750
840 IF PMP$(PR,PC) = "*" THEN 1130
850 IF PMP$(PR,PC) < > "+" THEN 880
860 PMP$(PR,PC) = CHR$( 32)
870 CALL - 198
880 IF CMP$(PR,PC) < > "*" THEN 910
890 PMP$(PR,PC) = "§":CMP$(PR,PC) = "+":CS = CS - 1
900 GOSUB 970
910 CC = INT ( RND (1) * 8 + 1):CR = INT ( RND (1) * 8 + 1)
920 IF PMP$(CC,CR) < > "*" THEN 960
930 PMP$(CC,CR) = "§"
940 PS = PS - 1
950 GOSUB 970
960 GOTO 460
970 FOR K = 1 TO 5
980 CALL ( - 198)
990 NEXT K
1000 IF PS > 0 THEN 1070
1010 HOME : PRINT M$
1020 PRINT "**** SORRY...****"

```

```

1030 PRINT : PRINT "I JUST SANK YOUR LAST BATTLESHIP"
1040 PRINT : PRINT "WOULD YOU LIKE TO PLAY AGAIN (Y OR N)"
1050 GET K$: IF K$ = "N" THEN 1120
1060 IF K$ = "Y" THEN 320
1070 IF CS > 0 THEN 1110
1080 HOME : PRINT M$
1090 PRINT "*** YOU WIN ***"
1100 GOTO 1040
1110 RETURN
1120 HOME : END
1130 PS = PS - 1: GOSUB 970
1140 POKE 36,18: PRINT "YOU JUST SANK"
1150 POKE 36,18: PRINT "YOUR OWN SHIP"
1160 FOR T = 1 TO 1000: NEXT T
1170 PMP$(PR,PC) = "§"
1180 GOTO 880

```

Program 93 MINER

Oh, ----! So much for the canary!

—From *A Treasury of Famous Last Words*

```
10 REM ** COAL MINER **
20 REM
30 FOR K = 1 TO 15:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "COAL MINER" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "**": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "YOU ARE A MINER WHO IS LOST IN A DEEP"
80 PRINT "MINE. IT IS TOO DARK TO SEE ANYTHING,"
90 PRINT "BUT YOU ARE AN EXPERT DIGGER. YOU CAN"
100 PRINT "DIG THROUGH ANYTHING BUT BIG ROCKS."
110 PRINT : PRINT "OBVIOUSLY, YOUR OBJECTIVE IS TO DIG"
120 PRINT "YOUR WAY OUT OF THE MINE, AND TO DO THE"
130 PRINT "JOB AS EFFICIENTLY AS POSSIBLE."
140 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
150 GET K$
160 HOME : PRINT M$
170 DIM R(39,39)
180 SCR = 0:ST = 0
190 GOSUB 680
200 FOR K = 1 TO 400
210 X = INT ( RND (1) * 39)
220 Y = INT ( RND (1) * 39)
230 R(X,Y) = 57
240 NEXT K
250 R(2,2) = 0
260 GR : COLOR= 8
270 FOR Y = 0 TO 39
280 HLIN 0,39 AT Y
290 NEXT Y
300 HOME : PRINT TAB( 3)"<RETURN>=EXIT";
310 PRINT SPC( 3)"U=UP" SPC( 5)"R=RIGHT"
320 PRINT SPC( 3)"STEPS="ST;
330 PRINT TAB( 19)"D=DOWN" SPC( 3)"L=LEFT"
340 COLOR= 2: PLOT 37,37
350 X = 37:NX = 37:Y = 37:NY = 37
360 COLOR= 5: PLOT 2,2
370 GET K$
380 ST = ST + 1
390 VTAB 22: HTAB 3
400 INVERSE : PRINT ST" STEPS";: NORMAL
410 IF K$ < > "U" THEN 430
420 NY = NY - 1: GOTO 510
430 IF K$ < > "D" THEN 450
440 NY = NY + 1: GOTO 510
450 IF K$ < > "L" THEN 470
460 NX = NX - 1: GOTO 510
470 IF K$ < > "R" THEN 490
480 NX = NX + 1: GOTO 510
```

```

490 IF K$ < > CHR$ (13) THEN 370
500 TEXT : HOME : PRINT M$: GOTO 880
510 IF NX < = 38 AND NY < = 38 THEN 530
520 NY = Y:NX = X:ST = ST - 1: GOTO 370
530 IF NX > = 0 AND NY > = 0 THEN 550
540 NY = Y:NX = X:ST = ST - 1: GOTO 370
550 IF R(NY,NX) < > 57 THEN 640
560 ST = ST - 1
570 VTAB 22: HTAB 3: INVERSE
580 PRINT "#$%&@ - ROCK!!": NORMAL
590 CALL - 198
600 FOR T = 1 TO 400: NEXT T
610 VTAB 22: HTAB 3: PRINT "STEPS="ST;
620 PRINT SPC( 7)
630 NY = Y:NX = X: GOTO 370
640 COLOR= 0: PLOT X,Y
650 COLOR= 2: PLOT NX,NY
660 X = NX:Y = NY: IF X = 2 AND Y = 2 THEN 740
670 GOTO 370
680 PRINT "PLEASE WAIT: I'M SETTING UP THE MINE."
690 FOR X = 0 TO 39: FOR Y = 0 TO 39
700 R(X,Y) = 0
710 NEXT Y: NEXT X
720 PRINT : PRINT "ALMOST DONE."
730 RETURN
740 TEXT : HOME : PRINT M$
750 PRINT "AHH, FRESH AIR!"
760 FOR K = 1 TO 5: CALL ( - 198): NEXT K
770 PRINT : PRINT "YOU DID IT IN "ST" STEPS."
780 FOR K = 1 TO 100
790 X = INT ( RND (1) * 39):Y = INT ( RND (1) * 39)
800 R(X,Y) = 57: NEXT K
810 ST = 0
820 VTAB 21: PRINT "WANT TO PLAY AGAIN (Y/N)? ";
830 SCR = SCR + 1
840 GET K$: IF K$ = "Y" THEN 260
850 IF K$ < > "N" THEN 840
860 HOME : PRINT M$
870 IF SCR = 1 THEN PRINT "YOU MADE IT THROUGH THE MINE": GOTO 930
880 PRINT "YOU MADE IT OUT OF "SCR" MINE";
890 IF SCR < > 1 THEN PRINT "S";
900 PRINT CHR$ (46)
910 IF SCR < 4 THEN 930
920 PRINT : PRINT "THAT'S PRETTY GOOD."
930 END

```

Program 94 ASTEROIDS

It may be that the race is not always to the swift, nor the battle to the strong—but that's the way to bet.

—Damon Runyon

```
10 REM ** ASTEROIDS **
20 REM
30 FOR K = 1 TO 15:M$ = M$ + CHR$ (32)
40 M$ = M$ + "ASTEROIDS" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + CHR$ (42): NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "YOUR MISSION IS TO NAVIGATE YOUR CRAFT"
80 PRINT "THROUGH AN ASTEROID BELT. YOU ARE"
90 PRINT "ABLE TO MOVE ONLY UP AND DOWN -- AND"
100 PRINT "EACH WAVE OF ASTEROIDS BECOMES MORE"
110 PRINT "DEADLY."
120 PRINT : PRINT
130 PRINT "SELECT YOUR PILOT RANKING:": PRINT
140 PRINT TAB( 5)"(B)EGINNER"
150 PRINT TAB( 5)"(E)XPERT"
160 GET DL$
170 IF DL$ = "B" THEN DL = 150: GOTO 200
180 IF DL$ = "E" THEN DL = 75: GOTO 200
190 GOTO 160
200 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
210 GET K$
220 HOME : GR
230 PRINT : PRINT M$
240 PRINT "U=UP" SPC( 4)"D=DOWN";
250 HTAB 20: PRINT "ANY KEY TO START";
260 PH = 0
270 COLOR= 25
280 D = 0
290 FOR C = 1 TO 39
300 R = INT ( RND (1) * 30)
310 PLOT C,R
320 R = INT ( RND (1) * 40)
330 PLOT C,R
340 NEXT C
350 COLOR= 0:C = 2:R = 10: PLOT C,R
360 R = 10: COLOR= 170
370 C = 1: PLOT C,R
380 COLOR= 0:C = 2: PLOT C,R
390 IF PH = 0 THEN GET K$:PH = 1
400 HTAB 20: PRINT SPC( 39 - POS (0))
410 FOR C = 2 TO 39
420 COLOR= 0: PLOT 1,R
430 COLOR= 170
440 FOR XX = 1 TO 2:CLK = PEEK ( - 16636): NEXT XX
450 IF SCRN( C,R) < > 0 THEN 590
460 PLOT C,R
470 POKE - 16368,0
```

```

480 FOR T = 1 TO DL: NEXT T
490 COLOR= 0: PLOT C,R
500 K = PEEK ( - 16384)
510 IF K = 196 THEN R = R + 1
520 IF K = 213 THEN R = R - 1
530 NEXT C
540 COLOR= 25
550 FOR C = 1 TO 39:R = INT ( RND (1) * 40)
560 PLOT C,R
570 NEXT C
580 D = D + 10000: GOTO 360
590 HTAB 15: VTAB 22
600 FLASH : PRINT "COLLISION";: NORMAL
610 FOR T = 1 TO 100
620 IF T / 10 = INT (T / 10) THEN CALL - 198
630 NEXT T
640 TEXT : HOME : PRINT M$
650 D = D + 250 * C
660 PRINT "YOU TRAVELED "D" KILOMETERS"
670 PRINT "BEFORE LOSING YOUR HEALTH."
680 FOR T = 1 TO 1500: NEXT T
690 VTAB 21
700 PRINT "WOULD YOU LIKE TO TRY AGAIN (Y/N)? ";
710 GET K$: IF K$ = "Y" THEN 220
720 IF K$ < > "N" THEN 710
730 HOME : END

```

Program 95 WILDCATTER

Thar's oil in them thar hills.

—Anonymous

```
10 REM ** WILDCATTER **
20 REM
30 FOR K = 1 TO 15:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "WILDCATTER" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + " ": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT "YOU ARE AN OLD-WEST KIND OF OILMAN WHO"
80 PRINT "IS HOPING TO GET RICH BY DRILLING FOR"
90 PRINT "OIL AT HIGHLY SPECULATIVE LOCATIONS."
100 PRINT : PRINT "A BENEVOLENT BENEFACITOR HAS STAKED YOU"
110 PRINT "TO THE TUNE OF $2-MILLION."
120 PRINT : PRINT "YOU HAVE FREE ACCESS TO 100 DIFFERENT"
130 PRINT "DRILLING LOCATIONS. THE DRILLING COST"
140 PRINT "IS ON THE ORDER OF $50 PER FOOT."
150 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN THE VENTURE ...";
160 GET K$
170 HOME : PRINT M$
180 PRINT "PLEASE WAIT A MOMENT ..."
190 DIM L(100)
200 FOR K = 1 TO 100
210 L(K) = INT ( RND (1) * 10000 + 4000)
220 NEXT K
230 AC = 2000000
240 R = 0
250 HOME : PRINT M$
260 PRINT "SELECT A DRILLING LOCATION (1-100):"
270 PRINT : INPUT PL
280 PL = INT (PL)
290 IF PL > 0 AND PL < 101 THEN 310
300 PRINT "0 THRU 100, PLEASE. TRY AGAIN ...": GOTO 270
310 D = L(PL)
320 HOME : PRINT M$: PRINT
330 NC = AC
340 VTAB 6: PRINT "YOU HAVE $"NC
350 VTAB 10: PRINT "YOUR WELL IS "R" FEET DEEP"
360 FOR T = 1 TO 400: NEXT T
370 CLK = PEEK ( - 16336):CLK = PEEK ( - 16336)
380 R = R + 500:WC = R * 50
390 IF R > = 10000 THEN 560
400 NC = AC - WC
410 IF R < D THEN 340
420 HOME : PRINT M$
430 FOR K = 1 TO 7: CALL ( - 198): NEXT K
440 PRINT : PRINT "**** YOU JUST STRUCK OIL ****"
450 WD = 100000 * INT (8 * RND (1) + 7)
460 PRINT : PRINT "YOU MADE $"WD" DOLLARS FROM THE WELL"
470 AC = NC + WD
480 L(PL) = 11000
```

```

490 PRINT : PRINT "YOU NOW HAVE $"AC
500 FOR T = 1 TO 500: NEXT T
510 VTAB 21: PRINT "WANT TO TRY AGAIN (Y/N) ";
520 GET K$
530 IF K$ = "Y" THEN 240
540 IF K$ < > "N" THEN 520
550 HOME : END
560 HOME : PRINT M$
570 FOR K = 1 TO 3: CALL ( - 198): NEXT K
580 PRINT : PRINT "YOU HAVE YOURSELF A DRY HOLE"
590 PRINT : PRINT "YOU LOST $"WC" ON THIS."
600 AC = AC - WC
610 PRINT : PRINT "YOU STILL HAVE $"AC
620 IF AC < 0 THEN 640
630 GOTO 510
640 PRINT : PRINT "YOU HAVE GONE BROKE, AND YOUR BENE-"
650 PRINT "FACTOR IS LOOKING FOR YOU. I STRONGLY"
660 PRINT "SUGGEST YOU AVOID THE OIL BUSINESS"
670 PRINT "IN THE FUTURE."
680 VTAB 21: END

```


Program 96 MOON LANDER

Hey, buddy. Spare a quarter for a game?

—Overheard outside a video arcade in Cincinnati

```
10 REM ** LUNAR-LANDER GAME **
20 REM
30 FOR N = 0 TO 13: X$ = X$ + CHR$(32): NEXT N
40 FOR N = 0 TO 39: Y$ = Y$ + " ": NEXT N
50 M$ = X$ + "LUNAR LANDER" + CHR$(13) + Y$
60 TEXT : HOME : PRINT M$
70 SPEED = 90
80 VTAB 4: PRINT "YOU ARE THE PILOT OF A LUNAR-LANDER"
90 PRINT "MODULE. YOUR OBJECTIVE IS TO LAND THE"
100 PRINT "MODULE AND CREW SAFELY ON THE SURFACE"
110 PRINT "OF THE MOON.": PRINT
120 PRINT "YOU MUST RETRO-FIRE YOUR ENGINES IN"
130 PRINT "ORDER TO CONTROL YOUR RATE OF DESCENT."
140 PRINT "THERE IS, OF COURSE, THE RISK OF CRASH-"
150 PRINT "ING; EITHER BECAUSE THE RATE OF DESCENT"
160 PRINT "IS TOO HIGH, OR YOU'VE BURNED ALL THE"
170 PRINT "AVAILABLE FUEL.": PRINT
180 PRINT "THREE THINGS CAN HAPPEN TO YOU, AND"
190 PRINT "TWO OF THEM ARE BAD. KEEP COOL, AND"
200 PRINT "CONTROL THE MODULE BY ENTERING BURN-"
210 PRINT "RATE VALUES. INCIDENTALLY, USING": INVERSE : PRINT "BURN ";
220 PRINT "RATES OF ";: FLASH : PRINT "75";
230 NORMAL : INVERSE : PRINT " OR MORE DESTROYS THE"
240 PRINT "ENGINES!!": NORMAL : PRINT
250 VTAB 22: SPEED = 255
260 PRINT
270 PRINT "STRIKE ANY KEY TO BEGIN ...";
280 GET K$
290 A$ = "ALTITUDE:"
300 S$ = "SPEED:"
310 F$ = "FUEL:"
320 B$ = "BURN RATE:"
330 R$ = "RISING"
340 D$ = "DESCENDING"
350 A = 500: F = 250: S = 50: BR = 0
360 I$ = LEFT$(X$, 12)
370 I$ = I$ + "INSTRUMENT PANEL" + CHR$(13)
380 FOR K = 1 TO 40: I$ = I$ + "=": NEXT K
390 HOME
400 VTAB 4: PRINT I$
410 PRINT : PRINT TAB(4) A$, A
420 PRINT : PRINT TAB(4) F$, F
430 PRINT : PRINT TAB(4) S$, S
440 PRINT : PRINT TAB(4) B$, BR
450 IF F < = 0 THEN BR = 0: GOTO 530
460 PRINT : PRINT "YOU ARE ";
470 IF S > = 0 THEN PRINT D$
480 IF S < 0 THEN PRINT R$
```

```

490 FOR K = 1 TO BR * 5:CK = PEEK ( - 16336): NEXT K
500 VTAB 20: INPUT "ENTER BURN RATE ";BR
510 IF BR < 0 THEN CALL - 198: GOTO 500
520 IF BR > 75 THEN 780
530 F = F - BR: IF F < 0 THEN 840
540 S = S + 10 - BR:A = A - S
550 IM = (A + S * 2 + 10) / 10
560 IF A > 0 THEN 640
570 CALL - 198: CALL - 198
580 HOME : PRINT M$
590 PRINT : PRINT : PRINT : INVERSE
600 PRINT "YOU HAVE BURIED THE SHIP "IM" METERS"
610 PRINT "INTO THE LUNAR SURFACE."
620 NORMAL
630 GOTO 710
640 IF IM > 5 THEN 390
650 HOME : PRINT M$
660 VTAB 15: FLASH : PRINT "*** YOU HAVE LANDED THE SHIP ***"
670 FOR N = 1 TO 10
680 CALL - 198
690 FOR T = 1 TO 200: NEXT T
700 NEXT N: NORMAL
710 FOR N = 1 TO 3000: NEXT N
720 HOME : PRINT M$
730 PRINT "DO YOU WANT TO TRY AGAIN (Y/N)? ";
740 GET K$
750 IF K$ = "N" THEN HOME : END
760 IF K$ = "Y" THEN 250
770 GOTO 740
780 HOME : GOSUB 890
790 HOME : PRINT M$: PRINT
800 PRINT : PRINT "BURN RATE IS TOO HIGH." SPC( 4)
810 PRINT : FLASH : PRINT "THIS HAS COMPLETELY DESTROYED YOUR
820 NORMAL : PRINT : PRINT
830 GOTO 710
840 PRINT : FLASH : PRINT "YOU HAVE EXHAUSTED YOUR FUEL SUPPLY
850 NORMAL
860 FOR T = 1 TO 160: NEXT T
870 FOR CK = 1 TO 3: CALL - 198: NEXT CK
880 GOTO 540
890 POKE - 16304,0: POKE - 16302,0
900 FOR N = 1 TO 28
910 POKE - 16297,0
920 FOR T = 0 TO 10
930 CLK = PEEK ( - 16336)
940 NEXT T
950 POKE - 16298,0
960 NEXT N
970 TEXT : RETURN

```

Program 97 STOCK MARKET

"Dow Jones is up today."

"Oh, yeh? How long was he in bed?"

—Overheard at a bus stop in Miami Beach

```
10 REM ** STOCK MARKET **
20 REM
30 FOR K = 1 TO 14:M$ = M$ + CHR$(32): NEXT K
40 M$ = M$ + "STOCK MARKET" + CHR$(13)
50 FOR K = 1 TO 40:M$ = M$ + "**": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT : PRINT : PRINT "THIS IS A ONE PLAYER GAME WHERE YOU "
80 PRINT "BUY AND SELL STOCKS IN ORDER TO MAKE"
90 PRINT "MONEY. YOU START WITH $100,000. THERE"
100 PRINT "IS A SELECTION OF 10 STOCKS THAT YOU "
110 PRINT "CAN INVEST IN. YOU CAN BUY OR SELL AS"
120 PRINT "MANY SHARES AS YOU HAVE MONEY FOR."
130 PRINT "YOU CAN TELL HOW THE MARKET IS DOING"
140 PRINT "BY WATCHING THE TV REPORTS."
150 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
160 GET K$
170 DIM N$(10): DIM P(10)
180 AC = 100000:NW = AC
190 FOR K = 1 TO 10
200 READ N$(K): READ P(K)
210 NEXT K
220 HOME : PRINT M$
230 FOR K = 1 TO 10
240 HTAB 3: PRINT K;
250 HTAB 6: PRINT N$(K);
260 HTAB 31: PRINT P(K)
270 NEXT K
280 PRINT
290 INVERSE : PRINT "YOUR NET WORTH IS $"NW
300 NORMAL : PRINT
310 PRINT "WANT A PORTFOLIO REPORT (Y/N)? ";
320 GET K$
330 IF K$ = "N" THEN 420
340 IF K$ < > "Y" THEN 320
350 HOME : PRINT M$
360 FOR K = 1 TO 10
370 PRINT K;
380 HTAB 6: PRINT N$(K);
390 HTAB 31: PRINT H(K)
400 NEXT K
410 GOSUB 1140
420 GOSUB 1210
430 PRINT "DO YOU WISH TO BUY ANY STOCKS (Y/N)? ";
440 GET K$
450 GOSUB 1210
460 IF K$ = "N" THEN 670
470 IF K$ < > "Y" THEN 420
```

```

480 GOSUB 1130
490 GOSUB 1210
500 PRINT "WHICH ONE (1-10)? ";
510 INPUT " ";L
520 IF L < 1 OR L > 10 THEN 490
530 GOSUB 1210
540 PRINT "HOW MANY SHARES OF #L AT $P(L)
550 INPUT W
560 R = P(L) * W
570 PRINT "THE PRICE IS $R
580 FOR T = 1 TO 1000: NEXT T
590 IF R < AC THEN 630
600 PRINT "YOU DON'T HAVE ENOUGH MONEY"
610 FOR T = 1 TO 1000: NEXT T
620 GOTO 420
630 AC = AC - R
640 GOSUB 1140
650 H(L) = H(L) + W
660 GOSUB 1210
670 PRINT "DO YOU WISH TO SELL ANY SHARES (Y/N)? ";
680 GET K$
690 IF K$ = "N" THEN 850
700 IF K$ < > "Y" THEN 680
710 GOSUB 1210
720 PRINT "WHICH STOCK (1-10)? ";
730 INPUT " ";D
740 IF D > 10 OR D < 1 THEN 720
750 GOSUB 1210
760 PRINT "YOU HAVE "H(D)" SHARE";
770 IF H(D) < > 1 THEN PRINT "S";
780 PRINT " OF STOCK #D
790 PRINT "HOW MANY DO YOU WISH TO SELL? ";
800 INPUT " ";Q
810 IF Q < = H(D) THEN 840
820 PRINT "YOU DON'T HAVE THAT MANY SHARES"
830 GOTO 670
840 AC = AC + P(D) * Q:H(D) = H(D) - Q
850 GOSUB 1140
860 PRINT "WANT TO QUIT NOW (Y/N)?"
870 GET K$: IF K$ = "N" THEN 920
880 IF K$ < > "Y" THEN 870
890 HOME : PRINT M$: PRINT : PRINT
900 PRINT "YOUR NET WORTH IS:"NW
910 HOME : END
920 PRINT : PRINT "STAY TUNED FOR ANOTHER MARKET REPORT"
930 FOR T = 1 TO 500
940 IF RND (1) > .3 THEN CLK = PEEK ( - 16336)
950 NEXT T
960 CALL ( - 198): CALL ( - 198)
970 FOR K = 1 TO 10
980 P(K) = INT ( RND (1) * 2 * P(K)) + 5
990 NEXT K
1000 NW = AC
1010 FOR K = 1 TO 10:NW = NW + H(K) * P(K): NEXT K
1020 GOTO 220
1030 DATA AMERICAN GONG TELEPHONE,70

```

```
1040 DATA JIM ANTELOPE FARM EQUIP.,40
1050 DATA COLONEL MOTORS,75
1060 DATA LEMON COMPUTER,40
1070 DATA MCRONALDS HAMBURGER,65
1080 DATA OKLAHOMA INSTRUMENTS,7
1090 DATA PACIFIC POORFIELD OIL,45
1100 DATA 286TH NAT. BANK,30
1110 DATA USELESS AIRLINES,30
1120 DATA XYZ TV NETWORK,75
1130 PRINT
1140 HTAB 1: VTAB 17
1150 PRINT SPC( 39): VTAB 17: HTAB 1
1160 INVERSE
1170 PRINT "YOU HAVE $"AC" IN CASH";
1180 NORMAL
1190 GOSUB 1210
1200 RETURN
1210 PRINT : VTAB 19
1220 FOR N = 1 TO 5: PRINT SPC( 39)
1230 NEXT N
1240 VTAB 19: HTAB 1
1250 RETURN
```

Program 98 HEADLINE GENERATOR

It ain't what you say, it's how you say it.

—Overheard in the editorial office of the *Daily Blatt*

```
10 REM ** COMPUTER-GENERATED HEADLINES **
20 REM
30 TEXT : HOME : DIM R$(100,3)
40 FOR N = 0 TO 11: X$ = X$ + CHR$(32): NEXT N
50 FOR N = 0 TO 39: Y$ = Y$ + "=": NEXT N
60 M1$ = X$ + "TODAY'S HEADLINES" + CHR$(13) + Y$
70 PRINT M1$: PRINT
80 PRINT "THIS PROGRAM SUGGESTS HEADLINES FOR"
90 PRINT "THE DAY'S NEWSPAPER. IT IS YOUR NEWS—"
100 PRINT "PAPER, AND YOU ARE THE EDITOR-IN-CHIEF."
110 PRINT : PRINT "SIMPLY FOLLOW SOME INSTRUCTIONS"
120 PRINT "THAT WILL SOON APPEAR ON THE SCREEN."
130 PRINT "THE COMPUTER WILL DO EVERYTHING ELSE"
140 PRINT "AFTER THAT."
150 PRINT : PRINT : FLASH : PRINT "NOTICE:";
160 NORMAL : PRINT "THE AUTHORS OF THIS PROGRAM"
170 PRINT "CANNOT BE SUED FOR ANY LIBELOUS HEAD—"
180 PRINT "LINES THAT YOUR COMPUTER MIGHT"
190 PRINT "GENERATE!"
200 VTAB 21: PRINT "STRIKE ANY KEY TO BEGIN ...";
210 GOSUB 670
220 HOME : PRINT M1$: PRINT "WHAT IS YOUR NAME";
230 INPUT N$
240 IF LEN(N$) > 0 AND LEN(N$) < 25 THEN 280
250 PRINT "AWW, CUT IT OUT. BE REAL. TRY AGAIN ...": GOTO 230
260 X$ = ""
270 FOR N = 0 TO (LEN(N$) + 10) / 2: X$ = X$ + CHR$(32): NEXT N
280 M1$ = X$ + N$ + "'S GAZETTE" + CHR$(13) + Y$
290 PRINT : PRINT "THAT'S A GOOD START."
300 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";: GOSUB 670
310 HOME : PRINT M1$
320 PRINT "ENTER SOME NOUNS SUCH AS:"
330 W = 1: GOSUB 540: N = 1
340 HOME : PRINT M1$
350 PRINT "ENTER SOME VERBS SUCH AS:"
360 W = 2: GOSUB 540: N = 1
370 HOME : PRINT M1$
380 PRINT "ENTER SOME DIRECT OBJECTS SUCH AS:"
390 W = 3: GOSUB 540: N = 1
400 HOME : PRINT M1$: PRINT
410 FOR M = 1 TO 3
420 PRINT R$(INT(N(M) * RND(1)) + 1, M) + " ";
430 NEXT M
440 HTAB 1: VTAB 20
450 PRINT "STRIKE THE SPACE BAR TO SEE ANOTHER"
460 PRINT "HEADLINE (OR THE X KEY TO END THIS"
470 PRINT "PROGRAM) ...";
480 GOSUB 670
```

```

490 IF K$ = "X" THEN HOME : END
500 GOTO 400
510 DATA CAT,DOG,MOUSE,ELEPHANT,SHOOTS,MEETS
520 DATA BEATS UP,FALLS IN LOVE WITH
530 DATA SELF,HOUSE,TURTLE,LITTLE BUG
540 PRINT
550 FOR N = 1 TO 4: READ M$: PRINT TAB( 3)M$: NEXT N
560 PRINT : PRINT "YOU CAN ENTER AS MANY AS 100 OF THEM"
570 PRINT "-- THE MORE, THE BETTER. JUST END YOUR"
580 PRINT "LIST WITH ###.": PRINT
590 N = 1
600 HTAB 1: VTAB 15
610 IF PEEK (37) > 21 THEN 600
620 HTAB 1: CALL - 868
630 PRINT N" -- "; INPUT ";R$
640 IF R$ = "" OR N = 1 AND R$ = "###" THEN 610
650 IF R$ = "###" OR N > = 100 THEN N(W) = N - 1: RETURN
660 R$(N,W) = R$:N = N + 1: GOTO 610
670 GET K$: RETURN

```

Program 99 KING PONG

Times do not change games, but rather the patience with which they are played.

—Earle C. Bootington

```
10 REM ** KINGPONG **
20 REM
30 FOR K = 1 TO 16:M$ = M$ + CHR$ (32): NEXT K
40 M$ = M$ + "KINGPONG" + CHR$ (13)
50 FOR K = 1 TO 40:M$ = M$ + "*": NEXT K
60 TEXT : HOME : PRINT M$
70 PRINT : PRINT "HI THERE, MY NAME IS KEVIN. I WORK"
80 PRINT "FOR DAVID L. HEISERMAN. DAVE IS ALWAYS"
90 PRINT "CHANGING MY PROGRAMS, TRYING TO MAKE"
100 PRINT "THEM BETTER AND BETTER. THIS IS A "
110 PRINT "PROGRAM THAT DAVE (OR YOU FOR THAT "
120 PRINT "MATTER) CAN EASILY CHANGE TO SUIT YOUR"
130 PRINT "OWN TASTE. "
140 PRINT : PRINT "THE BASIC GAME IS THE FAMILIAR 'PONG'"
150 PRINT "GAME. YOU CAN USE THE MENUES (SIC) TO
160 PRINT "SELECT THE COLORS AND SPEED OF THE"
170 PRINT "GAME."
180 PRINT : PRINT TAB( 5)"-- KEVIN"
190 VTAB 21: PRINT "STRIKE ANY KEY ...";
200 GET K$
210 HTAB 1: VTAB 13
220 CALL - 198: CALL - 958
230 PRINT "I DIDN'T CHANGE THIS ONE (VERY MUCH). "
240 PRINT : PRINT TAB( 5)"-- DAVE"
250 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE ...";
260 GET K$
270 FOR N = 1 TO 8: READ CA$(N)
280 READ CC(N): NEXT N
290 A$ = "FIELD"
300 NI = 8: GOSUB 1090
310 FC = CD:A$ = "BALL": GOSUB 1090
320 BC = CD:A$ = "PADDLE": GOSUB 1090
330 PC = CD: HOME : PRINT M$: PRINT
340 PRINT : PRINT "HOW FAST SHOULD THE BALL TRAVEL (1-5)";
350 GET K$
360 IF K$ < "1" OR K$ > "5" THEN CALL - 198: GOTO 350
370 SD = VAL (K$) * 20
380 HOME : GR
390 PP = 0:CS = 0
400 COLOR= FC
410 FOR H = 0 TO 39: VLIN E0,39 AT H: NEXT H
420 COLOR= PC
430 VLIN 0,39 AT 0: HLIN 0,39 AT 0
440 HLIN 0,39 AT 1: HLIN 0,39 AT 39
450 HLIN 0,39 AT 38: VLIN 0,39 AT 1
460 DF = - 1:DR = 0
470 PS = 20
480 X = 20:Y = 20:NX = 20:NY = 20
```



```

490 DR = INT ( RND (1) * 4 - 2)
500 FOR T = SD TO 101: NEXT T
510 K = PEEK ( - 16384): POKE - 16368,0
520 GOSUB 930
530 COLOR= BC
540 NX = X + DF:NY = Y + DR
550 IF SCRN( NX,NY) < > PC THEN 860
560 IF NX = 35 AND ABS (PS - NY) < 2 THEN PP = PP + 1
570 IF NX > 2 AND NX < 34 THEN DR = DR * - 1: GOTO 690
580 IF NX < 3 OR NX > 34 THEN DF = DF * - 1
590 IF X < 35 THEN 660
600 CS = CS + 1
610 X = 20:NX = 20:Y = 20:NY = 20
620 DF = - 1
630 FOR T = 1 TO 100
640 CK = PEEK ( - 16336): NEXT T
650 FOR T = 1 TO 500: NEXT T
660 IF DR > 0 THEN DR = INT ( RND (1) * 3)
670 IF DR < 0 THEN DR = - INT ( RND (1) * 3): GOTO 690
680 IF DR = 0 THEN DR = INT ( RND (1) * 3 - 1)
690 CALL - 198
700 IF PP < 21 AND CS < 21 THEN 810
710 TEXT : HOME : PRINT M$
720 PRINT : PRINT : CALL - 198: CALL - 198: FLASH
730 IF PP > = 21 THEN PRINT : PRINT "*** YOU WIN ***"
740 IF CS > = 21 THEN PRINT : PRINT " * THE COMPUTER WON *"
750 NORMAL : PRINT : PRINT
760 PRINT "WOULD YOU LIKE TO PLAY AGAIN (Y/N)";
770 GET K$
780 IF K$ = "Y" THEN 380
790 IF K$ = "N" THEN HOME : END
800 CALL - 198: GOTO 770
810 HOME : PRINT "YOU HAVE "PP" PTS." SPC( 10);
820 PRINT "D=DOWN"
830 PRINT : PRINT "COMPUTER HAS "CS" PTS." SPC( 6);
840 PRINT "U=UP"
850 GOTO 540
860 COLOR= FC: PLOT X,Y: COLOR= BC
870 X = NX:Y = NY
880 IF NX > 35 THEN 570
890 PLOT NX,NY
900 GOTO 500
910 K = PEEK ( - 16384)
920 POKE - 16368,0
930 IF K < > 213 THEN 1010
940 COLOR= FC
950 VLIN PS - 1,PS + 1 AT 35
960 PS = PS - 2: COLOR= PC
970 IF PS < 2 THEN PS = PS + 2
980 IF PS = 2 THEN PS = PS + 1
990 VLIN PS - 1,PS + 1 AT 35
1000 GOTO 1080
1010 IF K < > 196 THEN 1080
1020 COLOR= FC
1030 VLIN PS - 1,PS + 1 AT 35
1040 PS = PS + 2: COLOR= PC

```

```

1050 IF PS > 37 THEN PS = PS - 2
1060 IF PS = 37 THEN PS = PS - 1
1070 VLIN PS - 1,PS + 1 AT 35
1080 RETURN
1090 HOME : PRINT M$
1100 FOR N = 1 TO NI
1110 PRINT : PRINT TAB( 10)N SPC( 3)CA$(N)
1120 NEXT N
1130 PRINT
1140 PRINT "SELECT A COLOR FOR THE "A$(1-8)";
1150 GET K$
1160 IF K$ < "1" OR K$ > "8" THEN 1150
1170 K = VAL (K$):CD = CC(K)
1180 RETURN
1190 DATA BLACK,0,DARK BLUE,2,LIGHT BLUE,7
1200 DATA GREEN,12,ORANGE,9,GREY,5,YELLOW,13,WHITE,15

```

Program 100 ADVENTURE REVISITED

Adventure is not outside a man; it is within.

—David Grayson

```
10 REM ** ADVENTURE REVISITED **
20 REM
30 FOR N = 1 TO 40:Y$ = Y$ + "=": NEXT N
40 TEXT : HOME
50 PRINT "THIS IS ORIGINAL ADVENTURE #12556789.
60 PRINT "I AM YOUR PUPPET AND YOU CAN"
70 PRINT "TELL ME TO MOVE AROUND. TO GET THINGS,"
80 PRINT "GO SOUTH,GO EASY,TAKE INVENTORY AND OTHER"
90 PRINT "THINGS THAT YOU KNOW BECAUSE YOU PLAID"
100 PRINT "PREVIOUS 12556788 FAMOUS ADVENTURES."
110 PRINT
120 PRINT "WE HAVE TO DISCUSS SOMETHING VERY IM-"
130 PRINT "PORTANT FIRST, THO."
140 GOSUB 670: GOSUB 710
150 HOME
160 CALL - 198
170 PRINT "YOU LOVE YOUR MOM, DONT YOU?"
180 GOSUB 670
190 PRINT "OF COURSE YOU DO!"
200 CALL - 198: PRINT
210 PRINT "YOU LOVE YOUR COUNTRY DONT YOU??"
220 GOSUB 670
230 PRINT "OF COURSE YOU DO!!"
240 CALL - 198: PRINT
250 PRINT "AND YOU LOVE APPLE PIE, DONT YOU??"
260 GOSUB 670
270 PRINT "OF COURSE YOU DOO!!!!!!!"
280 FOR N = 1 TO 2: CALL - 198: GOSUB 670: NEXT N
290 PRINT : PRINT "WELL THIS IS A MOM, COUNTRY AND APPLE
300 PRINT "PIE OPERATION. AND I SPENT YEARS AND YEARS
310 PRINT "MAKING THIS PROGRAM!!!!!"
320 FOR N = 1 TO 2: CALL - 198: GOSUB 670: NEXT N
330 FLASH : PRINT "SO DO NOT ACCEPT A PIRATED COPY OF"
340 PRINT "PROGRAM!!!!!!!"
350 NORMAL
360 FOR N = 1 TO 10: CALL - 198: NEXT N
370 PRINT
380 PRINT "OR I'LL GET MAD!!!!!!!!!!!"
390 PRINT : PRINT "WELL, HAPPY ADVENTURER, HIT THE ENTER KEY"
400 PRINT "TO START THIS ADVENTURE"
410 PRINT "(IF YOU DONT KNOW WHAT THE ENTER KEY IS IT"
420 PRINT "MEANS THAT YOU DONT HAVE A TRS-80)"
430 GET K$
440 HOME
450 PRINT "YOU ARE STANDING IN FRONT OF A SPOOKY"
460 PRINT "OLD HOUSE."
470 PRINT Y$
480 PRINT "VISIBLE ITEMS:";
```

```

490 FOR N = 1 TO 11: READ D$
500 PRINT D$",";
510 NEXT N
520 HTAB 1: VTAB 19
530 PRINT Y$
540 PRINT "COMMANDS ARE: (N)ORTH,(S)OUTH,(E)AST
550 PRINT "(W)EST,(G)ET,TAKE (I)NVENTORY
560 HTAB 1: VTAB 8
570 PRINT "WHAT SHOULD I DO?";
580 GET K$
590 GOSUB 670
600 PRINT : PRINT "A LARGE TREE FELL ON YOUR HEAD!!!!"
610 PRINT "YOU'RE DEAD -- DEAD, DEAD,DEAD!!!!!!"
620 PRINT : PRINT "THIS ADVENTURE IS OVER."
630 PRINT "YOU TOOK 1 STEPS"
640 PRINT "YOU FOUND 0 TREASURES"
660 END
670 FOR T = 1 TO 2000: NEXT T: RETURN
680 DATA LARGE KEY,SMALL KEY,BRASS KEY,IRON KEY,GOLD KEY
690 DATA MONKEY,OLD GUM,LARGE GUM,SMALL GUM,BRASS MONKEY
700 DATA IRON GUM
710 VTAB 21: PRINT "STRIKE ANY KEY TO CONTINUE";
720 GET K$
730 RETURN

```

Program 101 GOOD-BYE

So much for the nonsense. Now we gotta get back to work.

—Overheard from a private office in Columbus, Ohio

```
10 REM ** GOOD-BYE **
20 REM
30 FOR K = 1 TO 40:MH$ = MH$ + "**": NEXT K
40 FOR N = 1 TO 63
50 READ D:M$ = M$ + CHR$ (D)
60 NEXT N
70 M$ = M$ + "GOOD-BYE ..."
80 M$ = M$ + "(STRIKE ANY KEY TO SAY 'GOOD-BYE' TO ME.)"
90 N$ = ""
100 FOR K = 1 TO 40:N$ = " " + N$: NEXT K
110 M$ = N$ + M$
120 TEXT : HOME
130 HTAB 1: VTAB 10: PRINT MH$
140 HTAB 1: VTAB 14: PRINT MH$
150 INVERSE
160 FOR N = 2 TO LEN (M$)
170 P$ = MID$ (M$,N) + LEFT$ (M$,N - 1)
180 VTAB 12: HTAB 1
190 PRINT LEFT$ (P$,40)
200 FOR T = 1 TO 20
210 IF T < 10 THEN G = PEEK ( - 16336)
220 NEXT T
230 K = PEEK (49152): POKE 49168,0
240 IF K > 127 THEN NORMAL : HOME : END
250 G = PEEK ( - 16336)
260 NEXT N
270 FOR G = 1 TO 3: CALL - 198: NEXT G
280 GOTO 160
290 DATA 73,32,65,77,32,74,85,83,84,32,65,32,86
300 DATA 73,83,73,84,79,82,32,84,79,32,84,72,73
310 DATA 83,32,80,76,65,78,69,84,46,32,73,84,39
320 DATA 83,32,84,73,77,69,32,70,79,82,32,77,69
330 DATA 32,84,79,32,71,79,32,78,79,87,46
```

101 Programming Surprises and Tricks for Your Apple II®/IIe® Computer

If you are intrigued with the possibilities of the programs included in *101 Programming Surprises and Tricks for Your Apple II, IIe Computer* (TAB Book No.1721), you should definitely consider having the ready-to-run disk containing the software applications. This software is guaranteed free of manufacturer's defects. (If you have any problems, return the disk within 30 days, and we'll send you a new one.) Not only will you save the time and effort of typing the programs, the disk eliminates the possibility of errors that can prevent the programs from functioning. Interested?

Available on disk for Apple II, II+, IIe, 48K at \$19.95 for each disk plus \$1.00 each shipping and handling.

I'm interested. Send me:

_____ disk for Apple II, II+, IIe, 48K (5061S)
_____ TAB BOOKS catalog
_____ Check/Money Order enclosed for \$19.95
_____ plus \$1.00 shipping and handling for each disk ordered.
_____ VISA _____ MasterCard

Account No. _____ Expires _____

Name _____

Address _____

City _____ State _____ Zip _____

Signature _____

Mail To: **TAB BOOKS Inc.**

P.O. Box 40

Blue Ridge Summit, PA 17214

(Pa. add 6% sales tax. Orders outside U.S. must be prepaid with international money orders in U.S. dollars.)

TAB 1721

101 Programming Surprises & Tricks for Your Apple II®/IIfx® Computer

by David L. Heiserman

Are you tired of finding the same old collections of games and puzzles in every book you pick up?

Do you wish someone would come up with a new group of entertainment programs designed especially to take advantage of your Apple's text, graphics, color, and sound capabilities?

Then you're in for a very pleasant surprise! This exciting new collection of games, novelties, and programming marvels is fresh, literate, and packed with all kinds of unique and downright amazing ways to have fun with your computer! Best of all each program has been designed to take fullest advantage of your Apple's most advanced capabilities—sound, graphics, color, and text!

Here's where you'll find music and sound programs, animated graphics, one- and two-player games, one-of-a-kind novelties, *and more!* Unlike many programming guides, this one makes no attempt to instruct you—although you'll discover some extremely clever programming tricks that you'll be able to use for more serious programming applications. Instead, the object is to entertain and be entertained!

This is where you'll find programs that are the perfect way to relax when you're tense and overworked . . . programs that provide that much-needed break after hours of serious business or educational programming. With the barest amount of commentary accompanying each program, you'll never be quite sure what to expect . . . and that's the fun part!

Programs range from short, simple novelties to full-length games for you and another player. There are animated graphics, games suitable for youngsters (with variations that make them interesting enough for the most sophisticated player), programs that poke fun at the computer and at computer users, music and sound effects that are really different, new versions of popular game simulations, and some highly original games you won't find *anywhere else!*

David L. Heiserman is a writer, teacher, computerist, and R. & D consultant who has written several best-selling books for TAB including *Projects in Machine Intelligence for Your Home Computer*.

TAB TAB BOOKS Inc.

Blue Ridge Summit, Pa. 17214

Send for FREE TAB Catalog describing over 750 current titles in print.

FPT >



ISBN 0-8306-1721-3

PRICES HIGHER IN CANADA

1095-0784